Commission d'examen
des produits dangereux
portant sur la mousse
isolante d'urée formaldehyde

Hazardous Products
Board of Review on
Urea Formaldehyde
Foam Insulation

Catalogue des pièces justificatives et Index des procès verbaux

Catalogue of Exhibits and Index to the Transcripts of Proceedings

du 29 juin 1981
au 5 janvier 1982

June 29, 1981
to January 5, 1982

Consommation et Corporations Canada
Consumer and Corporate Affairs Canada

COMMISSION D'EXAMEN DES
PRODUITS DANGEREUX PORTANT
SUR LA MOUSSE ISOLANTE
D'URÉE-FORMALDÉHYDE

HAZARDOUS PRODUCTS
BOARD OF REVIEW ON
UREA FORMALDEHYDE
FOAM INSULATION

CATALOGUE DES PIÈCES JUSTIFICATIVES

CATALOGUE OF EXHIBITS

le 29 juin 1981 au
5 janvier 1982

June 29, 1981 to
January 5, 1982

OTTAWA/HULL

PRÉFACE

Le présent catalogue, préparé par le ministère de la Consommation et des Corporations, donne la liste des documents qui ont été soumis à la Commission d'examen des produits dangereux portant sur la mousse isolante d'urée-formaldéhyde.

Les documents sont énumérés dans l'ordre dans lequel la Commission les a reçus et portent les cotes qui leur ont été assignées.

Les documents sont répertoriés dans la langue de publication (c'est-à-dire documents en anglais répertoriés en anglais et documents en français répertoriés en français).

Ils peuvent être consultés à la bibliothèque du ministère de la Consommation et des Corporations. Pour toute consultation, prière de suivre les directives suivantes.

PREFACE

The Department of Consumer and Corporate Affairs Canada has prepared this catalogue which identifies the Exhibits that were submitted to the Hazardous Products Board of Review on urea formaldehyde foam insulation.

The exhibits are listed in the order in which they were presented before the Board and bear the exhibit numbers assigned.

Documents are indexed in the language of publication (i.e. English language documents are indexed in English; French language documents are indexed in French).

Access to these documents is available through the Departmental Library of Consumer and Corporate Affairs Canada. Should you wish to consult any of the exhibits, please refer to the instructions which follow.

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Il est toujours possible de consulter la série complète de documents à la bibliothèque du Ministère. Dans la mesure du possible, nous recommandons aux intéressés de venir les consulter sur place.

Bon nombre des documents ont déjà été publiés sous forme d'articles de revues ou de journaux. Afin de les obtenir, prière de faire appel aux ressources documentaires de votre réseau de bibliothèques.

HOW TO OBTAIN THE EXHIBITS

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Dept. of Consumer and Corporate Affairs Canada
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50 Victoria Street
Hull, Quebec
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One complete set of exhibits is always available for consultation in the Consumer and Corporate Affairs Canada Library. Whenever possible, use of this reference set is encouraged.

Many of the exhibits are documents which have been previously published, such as journal articles. To obtain these documents, please use regular library network sources.

1. Documents Considered in the Final report of the Department of National Health and Welfare, Expert Advisory Committee on Urea Formaldehyde Foam Insulation, April, 1981. Volume I, including documents A1-A13.

Contents:

A1. Long, K.R., D.A. Pierson, S.T. Brennan, C.W. Frank and R.A. Hahne. Problems associated with the use of urea-formaldehyde foam for residential insulation. Part I: The effects of temperature and humidity on formaldehyde release from urea-formaldehyde foam insulation. Oak Ridge, Tenn.: Oak Ridge National Laboratory, Sept. 1979. (Research sponsored by the Office of Buildings and Community Systems, U.S. Dept. of Energy under contract W-7405-eng.-26 with Union Carbide Corporation, Nuclear Division, Oak Ridge, Tennessee).

A2. National Research Council (U.S.) Committee on Toxicology. Formaldehyde - assessment of its health effects; prepared for the Consumer Product Safety Commission by the Committee on Toxicology. Wash., D.C. : National Academy of Sciences, 1980.

A3. Levine, Richard, J. Effects of formaldehyde on man. October, 1978. (Draft)

A4. Harrington, J.M. and H.S. Shannon. "Mortality Study of pathologists and medical laboratory technicians." British Medical Journal, Nov. 8, 1975, Vol. 4, pp. 329-332. (Occasional survey)

A5. Andersen, I. Formaldehyde in the indoor environment - health implications and the setting of standards.

A6. Urea Formaldehyde foam checklist.

A7. Bolte, Henry F. 26 week inhalation toxicity study of formaldehyde in the monkey, rat and hamster; pathology report. Feb. 22, 1980.

A8. Office des normes du gouvernement canadien/Canadian Government Specifications Board/Norme: Isolant thermique, à base d'urée, expansé sur place./Standard for thermal insulation, urea based, foamed in situ. 51-GP-24M. Décembre/December 1977.

A9. U.S. Consumer Product Safety Commission. Urea-Formaldehyde foam insulation: proposed notice to purchasers. June 10, 1980.

A10. Environmental health and safety news. Formaldehyde exposure following urea formaldehyde insulation. (Summary Jan.-Dec. 1978)

A11. Office des normes du gouvernement canadien/Canadian Government Specifications Board/Norme: Isolant thermique, à base d'urée, expansé sur place/Standard for thermal insulation, urea based, foamed in situ./Août/August 1978.

A12. Office des normes du gouvernement canadien/Canadian Government Specifications Board/Norme provisoire: application de l'isolant à base d'urée, expansé sur place/Provisional Standard for: the installation of foamed-in-situ urea based insulation. 51-GP-22MP. Décembre/December, 1977.

A13. Loomis, Ted A. "Special article: formaldehyde toxicity." Archives of Pathology and Laboratory Medicine, July 1979, Vol. 103, pp. 321-324.

2. Documents Considered in the Final report of the Department of National Health and Welfare, Expert Advisory Committee on Urea Formaldehyde Foam Insulation, April, 1981. Volume II, including documents A14-A20.

A14. State of Massachusetts. Summary of the evidence and findings and conclusions concerning formaldehyde and UFFI.

A15. Report Technical workshop on formaldehyde held on April 9, 10, and 11, 1980 at the National Bureau of Standards in Washington, D.C.

A16. Chemical Industry Institute of Toxicology. Formaldehyde. September, 1979. (CIIT Current Status Reports, No.3)

A17. Harris, John C., Barry H. Rumack and Franklin D. Aldrich. "Toxicology of urea formaldehyde and polyurethane foam insulation." Journal of the American Medical Association, Jan. 16, 1981, Vol. 245, no. 3, pp.243-246.

A18. Breysse, Peter A. "Editorials: the health cost of tight homes." Journal of the American Medical Association, Jan. 16, 1981, Vol. 245, no. 32, pp. 267-268.

A19. "Formaldehyde: evidence of carcinogenicity." Joint NIOSH/OSHA Current Intelligence Bulletin no. 34, Dec. 23, 1980.

A20. Letter dated Jan. 13, 1981 from Harold B. Stevens M.C.I.C. to Dr. G.S. Wiberg, Environmental Health Directorate.

3. Documents Considered in the Final report of the Department of National Health and Welfare, Expert Advisory Committee on Urea Formaldehyde Foam Insulation, April, 1981. Volume III, including document C1.

C1. Biodynamics, Inc. A 26 week inhalation toxicity study of formaldehyde in the monkey, rat and hamster. Project number 79-7259.

4. Documents Considered in the Final report of the Department of National Health and Welfare, Expert Advisory Committee on Urea Formaldehyde Foam Insulation, April 1981. Volume IV, including documents C2-C9.

C2. Thun, Michael J., Michael F. Lakat and Ronald Altman. New Jersey urea formaldehyde foam insulation study. New Jersey State Health Department. n.d.

C3. (Statements) Presented by members of the Formaldehyde Institute.

C4. Letter dated Dec. 17, 1980 from Squires, Sanders & Dempsey to the Commissioners, Consumer Product Safety Commission with supporting documentation including: (1) letter of support from the Formaldehyde Institute (2) letter of support from the National Insulation Certification Institute (3) memorandum from Drs. Frank and Long (4) a draft proposed mandatory materials and installation standard for UF foam insulation.

C5. Brief presented by K & K Building Systems for the Canadian Home Insulation Contractors' Association. Jan. 22, 1981.

C6. Protocol for a mortality study of workers exposed to formaldehyde. Dated: December, 1980.

C7. Osborn, S.W. (et al). Urea formaldehyde foam insulation study; prepared for Union Carbide Corporation, Nuclear Division, Oak Ridge, Tennessee. May, 1980.

C8. Letter dated Jan. 17, 1981 from Ralph H. Jorgensen, Chester J. Ptasinski, and Patrick J. Windle, Directors of R Plus Industries, to the Honorable Monique Bégin, Minister of Health and Welfare and the Honorable André Ouellet, Minister of Consumer and Corporate Affairs. Re ban on urea formaldehyde insulation.

C9. Energlobe. Brief to the National Health and Welfare Advisory Committee on Urea Formaldehyde Foam Insulation. From Gordon C. Craig, National Director of Marketing, Energlobe Inc., Philipsburg, Quebec.

5. Carcinogenicity of formaldehyde. Final report (February 25, 1981) to the American Cancer Society by the Environmental Cancer Information Unit, Environmental Sciences Laboratory, Mount Sinai School of Medicine, City University of New York.

6. Letter dated June 25, 1981 to Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs from Mr. C.J. Holman, Barrister and Solicitor, Legal Division, National Office, Canada Mortgage and Housing Corporation. Appendix: Copy of an order for production of CMHC report.

7. Brief of submissions in the matter of the Hazardous Products Act and in the matter of an inquiry under Section 9 of the said Act concerning the nature and characteristics of urea formaldehyde based thermal insulation, foamed in place, used to insulate buildings, by W.J. Manuel and W. Burnham, Counsel, Consumer and Corporate Affairs, and Department of National Health and Welfare.

8. Outline of experience of L.R. Richardson, Research Scientist, Eastern Forest Products Laboratory, Ottawa, and Judith C. Young, Chemical Technologist, Forintek Canada Corp., Ottawa.

Richardson, L.R. and J.C. Young. Urea formaldehyde foam insulation in Ottawa area homes; special report for Product Safety Branch, Consumer and Corporate Affairs. July , 1981. Prepared by Forintek Canada Corporation.

10. Report summarizing Concord Scientific Corporation's investigations of homes insulated with urea formaldehyde foam. Prepared by Concord Scientific Corporation for Product Safety Branch, Consumer and Corporate Affairs.

11. Curriculum vitae of Michael D. Monette, Junior Engineer, Scanada Consultants Ltd., Ottawa.

12. Formaldehyde gas concentration testing of houses insulated with urea formaldehyde foam insulation (UFFI); summary of test results. Prepared for Consumer and Corporate Affairs Canada, Product Safety Branch by Scanada Consultants Ltd. July 21, 1981.

13. Day, Dr. James. Report on certain health hazards associated with urea formaldehyde foam insulation. Dated July 28, 1981.

14. Articles referred to in report of Dr. James Day.

    1. Bardanda, E.J. "Formaldehyde: hypersensitivity and irritant reactions at work and in the home." Immunology and Allergy Practice, May/June 1980, pp. 11-23.

    2. Formaldehyde: an assessment of its health effects, prepared for the Consumer Product Safety Commission by the Committee on Toxicology, Board on Toxicology and Environmental Health Hazards, Assembly of Life Sciences, National Research Council, National Academy of Sciences, Washington, D.C. March, 1980.

3. Horton, A.W., R. Tye, and K.L. Steemer. "Experimental carcinogenesis of the lung. Inhalation of gaseous formaldehyde or an aerosol of coal tar by C3H mice." Journal of the National Cancer Institute, January 1963, Vol. 30, no. 1, pp. 31-39.

4. LaBelle, C.W., J.E. Long, and E.E. Christofano. "Synergistic effects of aerosols". Industrial Health, Vol. 20, pp. 297-304.

5. Breysse, P.A., ed. "Formaldehyde in mobile and conventional homes." Environmental Health and Safety News, University of Washington, June 1977, Vol. 25, nos. 1-6.

6. Porter, J.A.H. "Acute respiratory distress following formalin inhalation." The Lancet, 1975, Vol. 2, pp. 603-604.

7. Pope, V. et al. "Bronchial asthma and asthmatic bronchitis determined by simple chemicals. " Diseases of the Chest, November 1969, Vol. 56, no. 5, pp. 395-404.

8. Sakula, A. "Formalin asthma in hospital laboratory staff." The Lancet, October 25, 1975, p. 816.

9. Hendrick, D.J. and D.J. Lane. "Formalin asthma in hospital staff." British Medical Journal, 1975, Vol. 1, pp. 607-608.

10. Hendrick, D.J. and D.J. Lane. "Occupational formalin asthma." British Journal of Industrial Medicine, 1977, Vol. 34, pp. 11-18.

11. Hoy, W.E. and R.V.M. Cestero. "Eosinophilia in maintenance hemodialysis patients." Journal of Dialysis, 1979, Vol. 3, no.1, pp. 73-87.

12. Kerfoot, Edward J. and Thomas F. Mooney. "Formaldehyde and paraformaldehyde study in funeral homes". American Industrial Hygiene Association Journal, Vol. 36, pp. 533-537.

15. Curriculum vitae of Herb Wooley, Occupational Hygienist, Saskatchewan Department of Labour.

16. Wooley, Herb. Urea formaldehyde insulation in Saskatchewan residences. Regina: Saskatchewan Labour, Occupational Health and Safety Branch, July, 1981. (Report No. 81-07-02)

16.A. Copy, page 7 of Exhibit 16. Relationship between the structure of homes insulated with UFFI and/or the application techniques used to install UFFI and airborne formaldehyde concentrations.

17. Resumé of work experience of Mr. Doug Hacking, Co-ordinator, Rehabilitation, Program Delivery Department, Manitoba Housing and Renewal Corporation, dated July 20, 1981.

18. Hacking, Doug. Urea formaldehyde foam insulation in Manitoba. Manitoba Housing and Renewal Corporation, July 24, 1981.

19. Illustrations de Doug Hacking/Doug Hacking pictures/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

20. Clerk, Marc. Investigation into urea formaldehyde foamed-in-place insulation installed in private dwellings in Quebec.

20.A. Doctor's reports accompanying report of Marc Clerk.

21. Illustrations annexées au rapport de Marc Clerk (Annexe C)/Pictures accompanying report of Marc Clerk, (Appendix C)/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs Library only.

22. Shirtliffe, Cliff. Report.

Subtitles: Hydrolysis of the foam; Formaldehyde emissions; Air leakage in houses and other buildings; Relationship between concentration in the air and in the cavity; Accidental application to furnace ducts; High rise buildings; Fungus and vermin; Corrosion; Statistical surveys versus in-depth investigations; UFFI problems in homes; Control during manufacture of the foam on site; Effective thermal resistance of UFFI; Do we need UFFI?

22.A. Timm, William and Patti M. Smith. "Test for formaldehyde off-gassing rates from insulation and other building materials". Journal of Thermal Insulation, Oct. 1980, Vol. 4, pp. 137-153.

22.B. Rybicky, Jaroslav and Stamatis M. Kambanis. "Determination of rate of formaldehyde release from urea formaldehyde and phenol-formaldehyde foams". Journal of Thermal Insulation, Jan. 1981, Vol. 4, p. 171-181.

23. Shirtliffe, Cliff. Report. Materials.

Contents: -

1. Report of Forintek Canada Corp. on emission of formaldehyde vapour using the Rybicky procedure.
2. Field investigation summary concerning the Bergeron home.
3. Renseignements relatifs à la maison Bastien/Information concerning the Bastien home.
4. Investigation by Building Design newspaper of UFFI in homes in the U.K.
5. Building Research Establishment Information paper on corrosion of steel wall ties.
6. #1 Guide to air sampling procedures.
7. #2 Guide to air sampling in cavities.

8. Measurement of formaldehyde in air: the NIOSH procedure.
9. Formaldehyde in air: a revised NIOSH procedure.
10. Information on fungal growth.
11. Report on home of Diane/Denis Dubuc.
12. Report on home of Chantal and Robert Lavoie.
13. Letter to CGSB from representatives of Urea formaldehyde foam manufacturers and suppliers.

24 Bowen, R.P., C.J. Shirtliffe and G.A. Chown. Urea formaldehyde foam insulation: problem identification and remedial measures for wood-frame construction. Ottawa: National Research Council of Canada, Division of Building Research, 31 July 1981.
Preliminary copy of the report to be issued as Building Practice Note No. 23 of the Division of Building Research, National Research Council of Canada. Marked PREPRINT COPY, NOT FOR PUBLICATION.

25. Pilger, C.W. and J.W. Smith. Formaldehyde measurements in residences; Toronto and surroundings. Toronto: Dept. of Chemical Engineering and Applied Chemistry, University of Toronto, July 22, 1981.

25.A. Letter dated August 7, 1981 from J.W. Smith, President, Chemical Engineering Research Consultants Limited to Dr. Richard Viau, Department of Consumer and Corporate Affairs, re an additional analysis of the relationship between levels of formaldehyde.

26. Illustrations provenant des diapositives de Cliff Shirtliffe/Pictures From Cliff Shirtliffe slides/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs Library only.

27. Sundin, Birger. Formaldehyde testing methods and standards - experiences from Sweden. (Paper given at) Technical Workshop on Formaldehyde, Wash., D.C., April 9-11, 1980.

28. Letter dated November 7, 1980 from R.W. Neal & Associates Ltd. to the Hon. André Ouellet, Minister of Consumer and Corporate Affairs; re industry proposal to government.

29. Wahren, Hakan. Formaldehyde indoor air standards in Sweden. (Paper given at) Technical Workshop on Formaldehyde, Wash., D.C., April 9-11, 1980.

30. Canadian General Standards Board. Manual for: installers of urea formaldehyde foam thermal insulation. 51-GP-43MP, July, 1980.

31. Interim report of the NHW Advisory Committee on urea formaldehyde foam insulation. December 8, 1980.

32. Chown, G.A., R.P. Bowen and C.J. Shirtliffe. Urea formaldehyde foam insulation. Ottawa; NRC, 1981. (Canada. National Research Council. Division of Building Research. Building Practice Code no. 19)

32.A. Chown, G.A., R.P. Bowen and C.J. Shirtliffe. Note d'information sur la construction. Ottawa: CNRC, 1981. (Conseil national de recherches Canada. Division des recherches sur le bâtiment. Note d'information sur la construction no. 19F).

33. Expert Advisory Committee on Urea Formaldehyde Foam Insulation (UFFI). Minutes of first meeting, held November 24, 1980. Purpose: to produce recommendations based on best scientific evidence available.

34. Shirtliffe, C.J. Presentation to the Expert Advisory Committee on UFFI, November 24, 1980.

35. (Expert Advisory Committee on Urea Formaldehyde Foam Insulation). (Minutes of) special meeting, held January 19, 1981. Purpose: To hear representatives of industry and C.G.S.B.

36. Canadian General Standards Board. Certification Program for Manufacturers.

37. Canada. Dept. of Public Works. Research and Development Laboratories. Properties of urea-formaldehyde foam thermal insulation. Ottawa: Dept. of Public Works, 1974.

38. Gammage, R.B. Technical statements that ORNL is prepared to verbalize concerning the nature of, and the formaldehyde off-gassing characteristics of, urea-formaldehyde foam, insulation (UFFI). Oak Ridge, Tenn.: Oak Ridge National Laboratory, July 30, 1981.
Final report to the Canadian Department of Consumer and Corporate Affairs, Product Safety Branch. Research sponsored by the Consumer Product Safety Commission under Interagency Agreement CPSC-1AG-79-1558.

39. Osborn, S.W. (et al). Urea formaldehyde foam insulation study, January 12, 1981; prepared for Union Carbide Corporation, Nuclear Division, Oak Ridge, Tennessee under subcontract no. 86X-24721C. Philadelphia, Pa.: Franklin Institute Research Laboratory, Inc. 1981. (Technical report: Final report (Revised) F-C5316-01. FRC Project No. 03G-C5316-01.)

40. Schutte, W.C., R.S. Cole, C.W. Frank and K.R. Long. Problems associated with the use of urea-formaldehyde foam for residential insulation; Prepared for the U.S. Department of Energy, Conservation and Solar Energy, Office of Buildings and Community Systems, Building Division. Oak Ridge, Oak Ridge National Laboratory, 1981. (ORNL/Sub - 7559/2).

41. Allan, G., J. Dutkiewicz and E. Gilmartin. "Long-term stability of urea-formaldehyde foam insulation". Environmental Science and Technology, Oct. 1980, Vol. 14, no. 10, pp. 1235-1240.

42. Letter dated March 18, 1980 from G. Graham Allan, Professor, Fiber and Polymer Science, University of Washington to Mr. Fritz Kramer, RAPCO Inc. Re testing of formaldehyde.

43. Frank, C.W. and K.R. Long. Presentation to U.S. Department of Energy, Feb. 20, 1981.

44. Memorandum dated June 5, 1980 from Keith R. Long, Institute of Agricultural Medicine and Environmental Health, University of Iowa College of Medicine to Dr. Richard B. Gammage. Subject: Review of Project 85X-24721-C.

45. Curriculum vitae of Richard A(llen) Griesemer, Director, Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

46. Griesemer, Richard A. Report on carcinogenicity of formaldehyde.

47. Materials on the carcinogenicity of formaldehyde.
    1. Swenberg, James A. (et al) "Induction of squamous cell carcinomas of the rat nasal cavity by inhalation exposure to formaldehyde vapor". Cancer research, Sept. 1980, Vol. 40, pp. 3398-3402.

    2. Report of the Federal Panel on Formaldehyde to the U.S. Consumer Product Safety Commission, November 1980.

    3. TLVs: Threshold limit values for chemical substances in workroom air adopted by ACGIH (American Conference of Governmental Industrial Hygienists) for 1980.
    - ACGIH Report on Chemical Agents TLV Committee, May 1981; Notice of intended changes for 1981.

48. Material submitted by Consumer's Association of Canada.
    Marie Savard pp. 1-43
    S.E. McCracken pp. 44-46
    Paul Toderick pp. 47-63
    S. McKay Smith pp. 64-67

49. Masque (Savard)/Savard Mask/Non disponible/Not available.

50. Kewley, Dave. "Family tears foam from walls". Spectator, July 17, 1981. Story and picture of mask.

51. Notice of an application pursuant to Section 9(2) of the Hazardous Products Act and Section 4 of the Inquiries Act, dated 29 July, 1981.
    Letter dated August 5, 1981 from David Kinloch, M.D. to W. J. Manuel, Counsel, Consumer and Corporate Affairs re appearance at Board of Review.

52. Order pursuant to section 9(2) of the Hazardous Products Act and Section 4 of the Inquiries Act, dated 18 August, 1981. Re appearance of Dr. David Kinloch, Medical Health Officer, City of Vancouver, before the Board of Review.

53. Expert Advisory Committee on Urea Formaldehyde Foam Insulation. Minutes of meetings.
    1. November 24, 1980
    2. December 15, 1980
    3. January 19, 1981
    4. January 23, 1981
    5. February 13, 1981

54. Curriculum vitae of Mr. Gilles Tremblay, P. Chem., M. Sc., Sodexen, Inc.

55. Sodexen Inc. Report on UFFI; chemical aspects of the formation and stability of urea-formaldehyde foams. Ottawa: Consumer and Corporate Affairs, August 5, 1981. (Contract No. 1081-279).

56. Sodexen Inc. Report: chemical tests and evaluation of emission rates for urea-formaldehyde foam insulation. Ottawa: Consumer and Corporate Affairs, August 5, 1981. (Contract No. 1081-279 (Sec. 1.2).

57. Sodexen Inc. Report: Survey and comments from people who own houses insulated with UFFI. Ottawa: Consumer and Corporate Affairs, August 5, 1981 (Contract No. 1081-279 (Section 1.4).

58. Sodexen Inc. Report: Detailed survey of dwellings insulated with UFFI. Ottawa: Consumer and Corporate Affairs, August 5, 1981. (Contract No. 1081-279 (Section 1.5).

59. Sodexen Inc. Report: Statistical review of formaldehyde concentrations within homes insulated with UFFI. Ottawa: Consumer and Corporate Affairs, August 17, 1981 (Contract No. 1081-279).

60. Excerpt from Appendix 3 of Exhibit 57. Data giving concentrations of formaldehyde in homes.

61. (Reed, Kenneth P.) An evaluation for formaldehyde in fibreglass batt insulation. Florence, Ky.: Actus Environmental Services, July 31, 1979. Also attached: Curriculum Vitae of Dr. Kenneth P. Reed.

62. Sceau contenant un échantillon de mousse isolante d'urée formaldéhyde (de couleur bleue) présenté par M. Donahue. Le sceau porte l'inscription Intermousse/InterFoam. Gen. U.F. Foam Inc., Granby (Québec)/A sample bucket of urea formaldehyde foam insulation (of blue colour) submitted by Mr. Donahue. Bucket marked Intermousse/InterFoam. Gen. U.F. Foam Inc., Granby, P.Q./Disponible pour examen à la bibliothèque du ministère de la Consommation et des Corporations seulement./Available for consultation at the Consumer and Corporate Affairs library only.

63. Photographie d'un mur de béton abattu dont l'assise contient de la mousse/A photograph of a blown-down concrete wall containing foam in the courses/Disponible aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

64. Photographies de plusieurs maisons mobiles isolées avec la MIUF/ Photographs of several mobile homes that had been foamed with UFFI/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

65. Battelle's final report on products containing formaldehyde (List).

66. Correspondence between Ralph H. Jorgensen, R Plus Industries Limited and André Ouellet, Minister of Consumer and Corporate Affairs and Monique Bégin, Minister of National Health and Welfare, beginning with letter dated January 23, 1981, stemming from letter of January 17, 1981 (Copy not attached).

67. Imperial Chemical Industries Limited. Organics Division. Tyfoam. (Descriptive sheet of literature).

68. Supplementary submissions of the Urea Formaldehyde Foam Insulation Action Association (UFFIAA) pursuant to a notice of the Hazardous Products Board of Review, dated June 11, 1981 regarding Urea Formaldehyde Based Thermal Insulation, foamed in place, used to insulate buildings.

69. Trois photographies de l'intérieur de la maison de M. et Mme Blake Cook/Three photographs of the inside of the home of Mr. and Mrs. Blake Cook/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

70. Photographie de la maison de Mme Marjorie Valancius/Photograph of Mrs. Marjorie Valancius' house/Disponible aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

71. Statement by Dr. Richard Wynne.
Summary of telephone interviews of fifteen members of UFFI Action Association.

72. Collection of 30 medical case histories, prepared by Dr. Richard Wynne.

73. Table of data compiled and collected by Dr. Richard Wynne.

74. Documentation collected and referred to by Dr. Peter A. Breysse.

    1. Occupational safety and health symposia. 1979. U.S. Dept. of Health and Human Services, June 1980. Contract # 210-79-0009.

    2. Breysse, Peter A. Formaldehyde exposure in mobile homes and conventional homes. Proceedings of the 43rd Annual Educational Conference of the National Environmental Health Association, June 23-28, 1979.

    3. "The high cost of 'tight' homes". Journal of the American Medical Association, Jan. 16, 1981, Vol. 245, no. 3, pp. 267-268.

4. "Formaldehyde evidence of carcinogenicity". Current intelligence bulletin no. 34, April 15, 1981.

5. Long, K.R. and W.C. Schutte. Problems associated with the use of urea-formaldehyde foam for residential insulation. Part IV. The relevance of materials standards to problems associated with the use of urea-formaldehyde foam insulation. Prepared for the U.S.Department of Energy, Conservation and Solar Energy, Office of Buildings and Community Systems, Buildings Division by Oak Ridge National Laboratory.

6. Burdach, St. and K. Wethselberg. "Impairment of health in the school; symptoms caused by the use of formaldehyde emitting materials in school buildings." Fortschritte der Medizen, March 20, 1980, Vol. 98, no. 11, pp. 377-412.

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Submitted by Howard Wetston and David Cohen, Consumers' Association of Canada, 31st August 1981.

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80. Can Test Ltd. Report on urea formaldehyde monitoring in houses insulated with urea formaldehyde foam insulation. Aug. 15, 1981.

81. Can Test Ltd. Interim report on formaldehyde monitoring in houses not insulated with urea formaldehyde foam insulation. Aug. 31, 1981.

81.A. Can Test Report (September 16, 1981).

82. Report of Dr. David Kinloch, Medical Health Officer, City of Vancouver in relation to the Vancouver Health Department program to assist homeowners with urea formaldehyde foam insulation in their homes.

82.A. UFFI test results (PPM). Dated 1981/08/31.

82.B. Urea formaldehyde foam insulation questionnaire, VHD 4652-4. May-June 1981.

83. Health and Welfare Canada. Health Protection Branch. Toxicology of thermal insulation. Ottawa: the Department, 1980 (80-EHD-63)

84. Hand-written document presented by Dr. Thomas Smith
    1. Respiratory complaints
    2. Visual complaints
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85. Lettre en date du 21 octobre 1980 addressée par M. Pierre Ricard, M. Sc. (chimie) à Mme Pierrette Bastien. Objet: échantillonnage de l'air dans la résidence de cette dernière.

86. Lettre en date du 14 octobre 1980 addressée par M. Roger Lapointe, Inspecteur de l'environnement, à Mme Pierrette Bastien. Objet: problèmes occasionnés par la formaldéhyde.

87. Lettre du médecin de Mme Solange Tremblay.

88. Rapport de Warnock Hersey sur les essais effectués à la résidence de Mme Tremblay, Montréal, Québec, le 2 sept. 1981.

89. Mme Mochon: rapport des essais.

90. Mme Deschênes: rapport des essais.

91. Sodexen Inc. Rapport: qualité de l'air dans votre maison. Le 22 juin 1981. (1081-266-UFOSH4). Préparé pour Mme Frigon, St.-Laurent, Québec.

92. Rapport medical du Dr. Pierre Delorme au sujet de Mme Irène Frigon, St.Laurent, Québec, le 2 septembre 1981.

93. Rapport medical "A qui de droit" du Dr. André Soucy, au sujet de Nathalie Frigon et de Mme Irène Pronovost-Frigon. Le 5 juin 1981.

94. Letter dated June 12, 1981 from Dr. Peter Z. Neumann re case of Travis Wilson.

95. Sodexen Inc. Report: Quality of air in your home. May 28, 1981. (1081-266-UF-016) Prepared for Mr. and Mrs. Wilson, Pierrefonds, Québec.

96. Rapport médical de Dr. Pierre Delorme en date du 17 juin 1981 à Dr.Roger Telbrosse. Objet: Mlle Denise Masicotte, Ville St-Laurent, Québec.

97. Sodexen Inc. Qualité de l'air dans votre maison. Le 28 mai 1981. (1081-266-UF-045). Preparé pour M. Massicotte, St-Laurent, Québec.

98. Copies du contrat d'installation d'isolante par Metrotec Inc. à la résidence de M. Jean Mailloux, St.Lambert, Québec.

99. (1) Letter dated Sept. 9, 1981 from Stephen E. Kulczycky, M.D. addressed to Whom It May Concern re medical condition of Mark Berger.

(2) Letter dated Aug. 20, 1981 from Dr. Peter Z. Neumann, re medical condition of Mark-Anthony Berger.

(3) Letter dated June 15, 1981 from Dr. Peter Z. Neumann, re medical condition of Mark-Anthony Berger.

(4) Sodexen Inc. Report: Quality of the air in your home. May 28, 1981. (1081-266-UF021). Prepared for Mrs. Julius Berger, Pierrefonds, Québec.

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103. Rapport de Warnock Hersey sur les essais effectués à la résidence de M. Guy Chevalier, Ste-Dorothée, Québec. Le 5 août 1981.

104. (1) Déclaration sur la résidence de Jacqueline Desbaillets.

(2) Letter to editor of Westmount Examiner dated July 6, 1981 from Jacqueline Desbaillets and Sally Drummond.

(3) Sodexen Inc. Rapport: Etude de la qualité de l'air dans votre maison. Le 30 juin 1981. (Rapport 1081-266 UF 072) Pour M.J. Desbaillets.

105. Sodexen Inc. Rapport: Etude de la qualité de l'air dans votre maison. Le 30 juin 1981. (Rapport 1081-266 UF) Pour M. Drummond.

106. Rapport de Warnock Hersey sur les essais effectués à la résidence de Mme Daigneault, Cartierville (Québec). Le 5 juin 1981.

107. Sodexen Inc. Rapport: Etude de la qualité de l'air dans votre maison. Le 31 juillet 1981. (Rapport 1081-266 UF 089). Pour M. Tessier, Tétrauville, Québec.

108. Rapport de Warnock Hersey sur les essais effectués à la résidence de M. Bertrand, Melocheville, Québec. Le 4 août 1981.

109. Rapport sur les essais effectués à la résidence de M. Doyon. (Pas disponible).

110. Rapport de Warnock Hersey sur les essais effectués à la résidence de Claude Hamon, Montréal, Québec. Le 27 août 1981.

111. Sodexen Inc. Report: air quality study in your house. 28 May 1981. (Report 1081-266-UF023). For Mr. Portugal, Côte St-Luc, Montreal

112. Rapport de Warnock Hersey sur les essais effectués à la résidence de M. Marcel Allard, Repentigny, Québec. Le 19 août 1981.

113. Rapport de Warnock Hersey sur les essais effectués a la résidence de M. Thivierge, De Nitro, Québec. Le 14 août 1981.

114. Warnock Hersey report of testing at the home of Mrs. Mona Shlafman, Montreal, Quebec. Dated Sept. 17, 1981.

115. Rapport de Warnock Hersey sur les essais effectués à la résidence de M. Luc Racicot, Contrecoeur (Québec). Le 22 mai 1981.

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117. Sodexen Inc. Rapport: qualité de l'air dans votre maison. Le 28 mai, 1981. (1081-266-UF005) Pour M. et Mme Arteau, Repentigny, Québec.

118. Canadian Chemical Producers' Association. Brief to the Hazardous Products Act Board of Review on Urea Formaldehyde Foam Insulation.

Includes results of testing by Borden Chemical (Canada) and report by Dr. D.T. Williams and R. Olson of the Organic Chemistry Section, Monitoring and Criteria Division, Bureau of Chemical Hazards, Environmental Health Directorate.

119. Santé et Bien-être social Canada/Health and Welfare Canada/Communiqué, le 17 décembre 1980/News release December 17, 1980/Interdiction de l'isolante de mousse d'urée formaldehyde/Ban on urea formladehyde foam insulation.

120. Santé et Bien-être social Canada. Direction générale de la protection de la Santé/Health and Welfare Canada. Health Protection Branch/Lettre de renseignements le 16 janvier 1980/Information letter, January 16, 1980/Objet: Comités consultatifs de spécialistes/Subject: Expert Advisory Committees.

121. Letter from Dr. J. Campbell, Chairman, NHW Advisory Committee on Urea Formaldehyde Foam Insulation, dated December 8, 1980 to Dr. A.B. Morrison, Health Protection Branch, Health and Welfare Canada. Re interim report on behalf of NHW Advisory Committee on Urea Formaldehyde Foam Insulation.

122. Letter from Dr. J. Campbell, NHW Advisory Committee on Urea Formaldehyde Foam Insulation, dated 17 December 1980 to Dr. A.B. Morrison, Health Protection Branch, Health and Welfare Canada. Progress report from UFFI Committee.

123. Letter from Dr. J. Campbell, Professor and Head of Pathology, Ottawa General Hospital, dated April 21, 1981 to Dr. A.B. Morrison, Health Protection Branch, Health and Welfare Canada. Covering letter for final report of UFFI Committee.

124. Letter from Leon Golberg, Professor of Community and Occupational Medicine, Duke University Medical Center dated 28 May 1981 to Dr. J. Campbell, Department of Pathology, University of Ottawa. Records approval of UFFI Committee report.

125. Letter from Dr. James Day, Kingston General Hospital dated June 3, 1981 to Dr. J. Campbell, Head of Pathology, University of Ottawa. Records approval of UFFI Committee report.

126. Telex from Dr. David Kinloch to Dr. S. Wiberg, July 14, 1981. Confirms earlier concurrence with final report of Expert Advisory Committee.

127. Government/UFFI Industry Liaison meeting. Dated 1980-10-02.

128. 1. Letter from Dr. M. Navratil, Borden Chemical to Mr. J.R. Hickman, Health Protection Branch, Health and Welfare Canada dated Sept. 29, 1980.
Information dealing with formaldehyde levels in residential dwellings insulated with urea formaldehyde foam.

2. Results of all measurements of formaldehyde in air done by Borden Chemical (Canada).

129. Borden Products Ltd., Office of the Technical Director. Occupational Health and Industrial Hygiene. Formaldehyde in air. Date issued Sept. 24, 1973. Date revised Jan. 15, 1974.

130. Canadian Patent: Urea Formaldehyde foam. Widmann, Marcel, Canada granted to Borden Products Limited, Canada. Application no. 199,372. Filed 740509.

131. Canadian Patent: Foaming apparatus. Widmann, Marcel, Canada granted to Borden Products Limited, Canada. Application no. 204,843. Filed 740716.

132. The National Insulation Certification Institute. The National Consensus Standard for materials and installation of urea formaldehyde foam insulation for residential applications effective August 1, 1980.

133. Frank, C.W. and K.R. Long. Statement before the Consumer Product Safety Commission, December 5, 1980, Washington, D.C.

134. Professional Consultants in Occupational Health, Inc. Current Statement on the population possibly at risk from postulated effects of formaldehyde gas at low or trace levels. Bethesda, Md.: Professional Consultants in Occupational Health, Inc. January 1981.

135. Brochure on Urealite from Reichold, Limited. Available for consultation at the Consumer and Corporate Affairs Library only.

136. Brochure. Foam insulation by RAPCO.

137. Questionnaire. HUFFI Registration . Homes with urea formaldehyde foam insulation: HUFFI.

138. Report prepared by Mrs. Patricia Clarke, Scarborough, Ontario.

139. Executive Office of Consumer Affairs, Massachusetts. A Consumer's Guide to the Urea Formaldehyde Foam Insulation repurchase regulation.

140. Photographies de la maison Clark/Photographs of the Clark house/Disponibles aux fins de consultation à la bibliothèque du ministère de la Consommation et des Corporations seulement/Available for consultation at the Consumer and Corporate Affairs library only.

141. Letter from Barbara J. Blake, M.D., Director, Public Health Branch, Ontario Ministry of Health to Mrs. B. Dawson, Etobicoke re results of tests carried out at premises.

142. 1. Submission of Mrs. Shirley Thomas.
2. Report of Airlock Insulating Limited re residence of Mr. Bill Thomas.

143. Letter from Barbara J. Blake, M.D., Director, Public Health Branch, Ontario Ministry of Health to Mr. Barber, Scarborough, re results of tests carried out at premises.

144. Letter from Gordon Hill, sales manager of Lorcon-Rapco, to Mr. R.G. Elliott and Mr. Richard Urbanczyk. Subject: Flame spread tests - L.S. foam.

145. Photographie d'un pistolet à injection de M.I.U.F./Photograph of foaming gun for injecting UFFI./Disponible aux fins de consultation à la bibliothèque du ministère de Consommation et des Corporatations/Available for viewing at the Consumer and Corporate Affairs library only.

146. Confidential report by Mr. R.L. Urbanczyk. Factors affecting foam stability (shrinkage).

146.A. Memo to Bob Elliott from Mr. R.L. Urbanczyk. Subject: L.S. foam flammability.

147. Presentation of Mr. W.H. (Bill) Bremner, Ontario Foamer's Insulation, to Board of Review. September 28, 1981.

148. Memo dated October 12, 1978 marked Personal and Confidential from R.C. Elliott, RAPCO Foam Inc. to CANUF, attention of Mr. E. Perrin. Re: shrinkage and flame spread characteristics.

149. Letter from Mr. Fred Silver, Chairman, CUFIC dated October 30, 1980 to Mr. Gordon L. Walt, Chairman of the UFFI Committee re: industry proposal to government and terms of reference for the Canadian Urea Foam Industry Council.

150. Minutes of the Government/UFFI Industry Liaison meeting of 2 October, 1980.

151. Minutes of (industry) meeting October 16, 1980.

152. Makin, Kirk. "Standards were relaxed on insulation products after some failed tests."Globe and Mail. (no date)

153. Letter from Barbara J. Blake, M.D., Director, Public Health Branch, Ontario Ministry of Health to Mr. and Mrs. Morgan, Etobicoke, Ontario, re results of tests carried out at premises.

154. Letter from Consumer and Corporate Affairs, Urea Formaldehyde Foam Insulation Information and Co-ordination Centre, dated September 25, 1981 with waiver forms addressed to Mr. R.J. Morgan.

155. Letter addressed August 14, 1981 from James H. Day , M.D. to Mr. William J.Manuel, Legal Branch, Consumer and Corporate Affairs. Re: references from The Report on Certain Health Hazards Associated with Urea Formaldehyde Foam Insulation.

156. 1. Letter dated Aug. 18, 1981 from Dr. R.B. Gammage, Oak Ridge National Laboratory to Dr. R. Viau, Product Safety Branch, Consumer and Corporate Affairs. Re: additions and corrections to Technical statements that ORNL is prepared to verbalize concerning the nature of, and the formaldehyde off-gassing characteristics of, urea-formaldehyde foam insulation (UFFI).

2. Letter dated August 12, 1981 from B. Meyer, Professor of Chemistry, University of Washington to Ms. R. Siegel, Project Manager, Urea Formaldehyde Foam Insulation, U.S. Product Safety Commission. Re: site visit of Mr. Ted S. Lundy.

157. Letter dated September 22, 1981 from W. J. Manuel, Counsel, Consumer & Corporate Affairs to Alexander Stewart, Blake, Cassels & Graydon, Solicitors. Re UFFI Hearings.

158. Letter dated September 23, 1981 from Alexander Stewart, Blake, Cassels & Graydon, Solicitors, to W. J. Manuel, Counsel, Consumer & Corporate Affairs. Re UFFI Hearings.

159. Order pursuant to section 9(2) of the Hazardous Products Act and Section 4 of the Inquiries Act, dated 29th Sept. 1981. To Ontario Research Foundation and Speakman Centre for Materials Evaluation to disclose test results.

160. Order pursuant to section 9(2) of the Hazardous Products Act and Section 4 of the Inquiries Act, dated 28th September, 1981. To Cyril Gibbons to appear before the Board.

161. Statement for the Canadian Board Reviewing UFFI (by D. Clary).

162. Interim report of the NHW Advisory Committee on Urea Formaldehyde Foam Insulation. Dec. 8, 1980.

163. Letter dated December 23, 1980 from John J. Clary, Toxicology Director, Celanese Corporation, to Dr. J. Campbell, Faculty of Medicine, University of Ottawa. Re: Health and Welfare press release.

164. Letter dated January 28, 1981 from John J. Clary, Celanese Corporation, to Mr. John Harrison, Health Protection Branch, Health and Welfare Canada. Re: formaldehyde effect on tumor production.

165. Covering letter dated March 10, 1981 from John R. Harrison, Under Secretary of Expert Committee on UFFI to Dr. John J. Clary, Director of Toxicology, Celanese Corporation. Attached: Final Report of the Department of National Health and Welfare Expert Advisory Committee on Urea Formaldehyde Foam Insulation. (Draft).

166. Telegram dated March 10, 1981 from John J. Clary, Celanese Corporation to Dr. G.S. Wiberg, Environmental Health Directorate, Health and Welfare Canada.

167. Letter dated March 13, 1981 from John J. Clary, Toxicology Director, Celanese Corporation, to John Harrison, Health Protection Branch, Health and Welfare Canada. Re: comments on draft final report of UFFI panel.

168. Routing slip for Expert Advisory Committee on UFFI, dated April 7, 1981.

169. Telex dated April 10, 1981 from John J. Clary, Celanese Corporation to Fred Desjardins, Health and Welfare Canada.

170. Letter dated April 23, 1981 from G.S. Wiberg, Secretary, Expert Advisory Committee on UFFI to Dr. John J. Clary, Director of Toxicology, Celanese Corporation. Re: enclosure of Final Report on Urea Formaldehyde Foam Insulation.

171. Letter dated May 5, 1981 from John J. Clary, Toxicology Director, Celanese Corporation to Dr. J.S. Campbell, Faculty of Health Sciences, University of Ottawa. Re comments on final report of UFFI.

172. Telex dated December 24, 1980 from John J. Clary, Toxicology Director, Celanese Corporation to Dr. G.S. Wiberg, Environmental Health Directorate, Health and Welfare Canada. Re: Health and Welfare press release.

173. Letter dated April 3, 1981 from G.S. Wiberg, Secretary, Expert Committee on UFFI to Dr. John J. Clary, Director of Toxicology, Celanese Corporation. Re: second draft (final) report on UFFI.

174. Final report of the Department of National Health and Welfare Expert Advisory Committee on Urea Formaldehyde Foam Insulation. April, 1981.

175. Telex dated March 24, 1981, from Dr. David Kinloch to John Harrison, Health Protection Branch, Health and Welfare Canada. Re: Supplement to oral editorial comments.

176. Telex dated April 13, from J. Harrison, Health Protection Branch, Health and Welfare Canada conveying final report to Dr. John J. Clary, Director of Toxicology, Celanese Corporation.

177. Telex dated April 28, 1981 from John J. Clary, Celanese Corporation Health and Welfare Canada, to John R. Harrison, Bureau of Chemical Hazards. Re: Health and Welfare press release of April 23, 1981.

178. Letter dated June 23, 1981 to Dr. John J. Clary, Toxicology Director, Celanese Corporation from Monique Bégin, Minister of National Health and Welfare. Re: report of Expert Advisory Committee on Urea Formaldehyde Foam Insulation.

179. Bender, Joel R., M.D. Health effects of formaldehyde presented before the Board of Review, September 29, 1981.

180. (Fairweather, William Edwin. Report on carcinogenic risk assessments for formaldehyde.)

181. Frank, C.W., Institute of Agricultural Medicine and Environmental Health, University of Iowa. Statement (on UFFI issues).

182. Analysis of Table 1 of Dr. Frank's submission.

183. Memorandum dated December 30, 1980 from Keith R. Long, Institute of Agricultural Medicine and Environmental Health, University of Iowa, College of Medicine, to Susan B. King, Chairman, Consumer Product Safety Commission. Re: memorandum of December 16, 1980 to J.Z. Fandey from P.M. Lancer. Subject: Analysis of Formaldehyde Institute Statements to the Commission on Urea Formaldehyde Foam Insulation (UFFI) on December 5, 1980.

184. Memorandum dated March 12, 1981 to Harry I. Cohen (et al) Consumer Product Safety Commission. Subject: UFFI-Inquiry.

185. U.S. Consumer Product Safety Commission. Directorate for Hazard Identification and Analysis - Epidemiology. Table I. Summary of in-depth investigation: Urea formaldehyde foam home insulation.

186. Stephens, L.A. Representation by Bluewater Insulation Ltd., Bayfield, Ontario, to Board of Review, Hazardous Products established pursuant to Order-In-Council P.C. 1980-3502 concerning Urea Formaldehyde based thermal insulation, foamed in place, used to insulate buildings. Dated 1 October 1981.

187. A brief on urea formaldehyde foam; presented to the Board of Review, Product Safety Branch, Consumer and Corporate Affairs at Toronto, Ontario, September 30, 1981 on behalf of those people in Waterloo County, including the cities of Kitchener, Waterloo, Cambridge and the surrounding territory who are trying to cope with the problems of foam insulation in their homes.

188. Letter dated June 22, 1978 from G.S. Wiberg, Health Protection Branch, Health and Welfare Canada to Mr. Arthur Jefford, Market Development,Reichhold Limited. Re: participation in meeting.

189. Letter dated August 31, 1981 from Barbara J. Blake, M.D., Director, Public Health Branch, Ontario Ministry of Health to Mr. R. Gossen re results of tests carried out at premises.

190. 1. Results from Reichhold Ltd. in letter to Mr. and Mrs. Scala, Scarborough, Ontario, re testing in home.
2. Medical report by Jane S.P. Lee, M.D. re: Luisa Scala.
3. Pupil achievement report for Luisa C. Scala.
4. Contract for insulation.

191. Submission by Mel Swart, MLA, Welland-Thorold to the Hazardous Products Board of Review Hearing at Travel Lodge Hotel, Toronto, Thursday, Oct. 1st.

192. Letter dated Sept. 28, 1981 from Beverly Scodellaro, Toronto to D.M. Youngson, Chief, Technical Section, Urea Formaldehyde Foam Insulation Information and Co-ordination Centre, Consumer and Corporate Affairs. Re: testing for formaldehyde levels.

193. Niagara District Health Council. Niagara profile: Appendix: Health Needs Task Force Report #2. September 16, 1981.

193.A. Niagara District Health Council. Niagara profile: Health Needs Task Force Report #2. September 16, 1981.

194. Urmoneit, Manfred F. Statement re urea formaldehyde foam in residence.

195. Tableau présenté par M. Pfaff indiquant les niveaux de formaldéhyde avant et après l'installation de la mousse./Table by Mr. Pfaff of pre and post foam installation formaldehyde levels. (Ce document n'a jamais été déposé)/(Never submitted).

196. Letter dated January 18, 1981 from Mr. H.B. Pfaff, Canadian Home Insulation Contractor's Association, to Dr. J. Campbell, Expert Advisory Committee. Subject: Gov't ban on urea formaldehyde thermal insulation.

197. Spitzer, Dr. Frank, President, Homeowners with Urea Formaldehyde Foam Insulation Ontario. Presentation to the Hazardous Products Review Board. October 1, 1981.

198. Letter re 1977 installation, from T.W. Lawson to Thomas Geamurane, Snowshoe Insulation Ltd. Attached account of installation.

199. 1. Letter written by Charles and Georgina Pullan to Toronto Star.
2. Report prepared by Mr. Pullan.
3. Missing. Letter from Grace Haywood.

200. Curriculum vitae for Cyril S. Gibbons, Assistant Director, Department of Materials Chemistry, Ontario Research Foundation.

201. Gibbons, C.S., Ontario Research Foundation. Review of Tests on urea-formaldehyde foam insulation conducted at ORF. For Consumer and Corporate Affairs Canada, Product Safety Branch. October 1, 1981.

202. Brown, W.D. and P.L. Wenning, Ontario Research Foundation. Building Performance Centre Final report: Field studies of formaldehyde gas in homes - data collection.
For National Research Council. July 27, 1981.

202.A. Field studies of formaldehyde gas in homes - data collection. Phase I. Questionnaire.

203. Concord Scientific Corporation. Testing of ten homes not insulated with UFFI for formaldehyde; a report prepared for Department of Consumer and Corporate Affairs. August 31, 1981.

204. Schedule B. House preparation.

205. 1. United Technology and Science Inc. Report and analysis of data obtained from homes with urea formaldehyde foam insulation. For Department of Consumer and Corporate Affairs, Product Safety Branch. July, 1981.

206. 1. "Le ministre Ouellet aux victimes de la MIUF; Faites-vous soigner si vous êtes malades." Journal de Montréal, samedi, 3 octobre, 1981.

2. English translation.

207. Cohn, Murray S. Risk assessment: cancer risk from exposure to formaldehyde vapor released from UFFI installed in Canadian residences.

208. (Memorandum) From Dr. Arthur Upton, Professor and Chairman, Institute of Environmental Medicine, New York University Medical Centre to (list of 12 people). Dated August 17, 1981. Re squamous cell carcinoma of nasal cavity.

209. Case breakdown of formaldehyde sampling results in houses insulated with U.F.F.I. for the province of Nova Scotia to date. Dated 30 July, 1981.

209.A. LeBlanc, James, Occupational Health Division, N.S. Dept. of Health. Summary of formaldehyde sampling results conducted by The Nova Scotia Department of Health.

Attachment: Case breakdown of formaldehyde sampling results in houses insulated with U.F.F.I. for the province of Nova Scotia. September 22, 1981.

210. (Graph) Frequency distributions of formaldehyde levels in Canadian U.F.F.I. & Non-UFFI residences.

211. Cohn, Murray S. Report on risk assessment for formaldehyde released from urea formaldehyde foam insulation.

Includes curriculum vitae for Murray Steven Cohn, U.S. Consumer Product Safety Commission.

212. 1. Consumer Product Safety Commission. (16 CFR Part 1306) Urea-formaldehyde foam insulation. Extension of time for rule making.

2. U.S. Consumer Product Safety Commission. Memorandum dated Sept. 3, 1981. Subject: Six month extension of work on urea-formaldehyde foam insulation.

213. Letter from Harry I. Cohen, Program Manager, Household Structural Products Program, U.S. Product Safety Commission to R. Viau, Product Safety Branch, Dept. of Consumer and Corporate Affairs. With supporting documents. Re summary of status of UFFI.

214. Energy, Mines and Resources Canada. Enersave Advisory Service. Enersave's role with UFFI. Description of national information centre. Appendix: Summary of documented UFFI complaints.

215.A Summary of complaints received by U.F.F.I. Coordination and Information Centre, June 29, 1981 to July 22, 1981 inclusive. Volume I.

215.B Summary of complaints received by U.F.F.I. Coordination and Information Centre, July 23, 1981 to September 10, 1981. Volume II.

3279 complaints. Lists date of installation, where installed, whether a doctor was consulted, number of persons affected, health complaints and comments.

215.C Summary of complaints with medical symptoms received by the U.F.F.I. Coordination and Information Centre, June 29 to October 10, 1981. By province. Volume III.

Total number of complaints received 6,363. (June 29 to September 10, 1981). Number with medical symptoms 3,279. Percentage with medical symptoms 51.5%.

216. Reports of investigations of U.F.F.I. related problems in homes in the U.S.A.

Eight reports documenting urea formaldehyde presence and effects in United States locations.

1. Field investigations conducted by New Jersey State Department of Health, April, 1981.

2. "Formaldehyde in mobile and conventional homes," University of Washington Environmental Health and Safety News, ed. by Peter A. Breysse. Vol. 26, Nos. 1-6, Jan. to June 1977.

3. Breysse,Peter A. Small plants and their medical problems - the furniture industry; The environmental problems of urea formaldehyde structures-- formaldehyde exposure in mobile homes. Presented at the 1978 Symposium on Occupational Safety and Health.

4. Westgate, Hugh D., M.D., Childen's Health Centre, Minneapolis Formaldehyde warning: Draft. June 25, 1979.

5. Garry, Vincent, F. (et al), Minnesota Dept. of Health. "Formaldehyde in the house: some environmental disease perspectives". Minnesota Medicine, Feb. 1980, pp. 107-111.

6. Stephenson, David J., Colorado Attorney General's Office. Witness Statement before the U.S. Consumer Product Safety Commission: Urea-formaldehyde foam insulation: Public Hearing: Minneapolis, Minnesota, February 6, 1980.

7. Sardinas, Anthony V. (et al) "Health effects associated with urea-formaldehyde foam insulation in Connecticut." Journal of environmental health, March/April 1979, Vol. 41, no. 5, pp. 270-272.

8. Letter dated March 6, 1980 from Melvin R. Witcher, State of North Carolina, Division of Health Services to U.S. Consumer Product Safety Commission. Re: air sampling survey in homes where UF foam insulation had been installed. Appendix: Summary of Formaldehyde Air Sampling, August 8, 1979 to January 3, 1980.

217. Materials on U.F.F.I. from the U.S. Consumer Product Safety Commission. Contents: 1 "Consumer Product Safety Commission - urea-formaldehyde foam insulation; prepared ban; denial of petition." Federal Register, February 5, 1981, Vol. 46, no. 24, pp. 11188-11211. 2. Present, Paula A., U.S. Consumer Product Safety Commission, Directorate for Hazard Identification and Analysis - Epidemiology. Report on consumer complaints: urea formaldehyde foam insulation. July 1980. 3. Summary of 75 in-depth investigations of UFFI complaints.

218. a) Munro, Ian C. and Daniel R. Krewski, Health Protection Branch, Health and Welfare Canada. "Risk assessment and regulatory decision making". To appear in: Food and Cosmetics Toxicology, 1981.

An overview of the regulatory decision making process with special references to the regulation of chemical carcinogens.

b) Krewski, Daniel and Charles Brown. "Carcinogenic risk assessment: a guide to the literature." Biometrics, June 1981, Vol. 37, no.2, pp. 353-366.

"An overview of the problems involved in assessing the carcinogenic potential of environmental chemicals is presented. Statistical aspects of the safety evaluation process are noted and appropriate references to the literature are provided." (Summary)

c) Krewski, Daniel and John Van Ryzin. "Dose response models for quantal response toxicity data." To appear in: Current topics in Probability and Statistics, ed. by M. Csorgo et al, 1981.

Reviews a number of dose response models for quantal response toxicity data, including the probit, logit, extreme value, gamma multi-hit and multi-stage models.

219. CMHC materials acceptance. October, 1981.

Describes the historical background of CMHC acceptance of products, and conditions of acceptance. Appendices include copies of legislation, material on standards and letter re acceptance no. 8211 to E.M. Perrin, Borden Chemicals Canada, dated 8 August 1978.

219a) Canadian Home Insulation Program (CHIP). Material list effective September 26th, 1979.

Includes product list of urea formaldehyde foam (site application type): 8209, Rapco Urea Formaldehyde Foam; 8211 Insulspray; 8220 Key Foam; 8350 Key Foam ; 8651 Schaum - Chem. UF Foam Insulation; 8921 Urealite Urea Formaldehyde; 9115 Instant Foam Urea Formaldehyde; 9160 Celsius Urea Formaldehyde; 9161 Interfoam Urea Formaldehyde.

220. Canadian Home Insulation Program. Booklets.
Includes: 1. How to determine your insulation needs to get the most for your money. 2. How to insulate your home and cut your fuel bills by more than one third. 3. How to qualify for an insulation grant of up to $350. 4. How to apply for an insulation grant of up to $350.

221. Canadian Home Insulation Program. How to get up to $500 for insulating your home.

222. Shirtliffe, C.J. Use of urea-formaldehyde foam in various countries from 1950-1980. October 20, 1981.

223. Letter dated October 26, 1981 from Jim LeBlanc, Province of Nova Scotia, Department of Health to Mr. Bill Powell, Armdale, N.S. RE: Formaldehyde levels at the residence of Mr. Bill Powell.

224. Summary health information for the Board of Review. Handwritten document by Mark Poirier on Nova Scotia Urea Formaldehyde FIGHT letterhead.

FIGHT had over 200 contacts (mid-October) in the province, 60 with health complaints. Document itemizes complaints of 50 contacts.

225. Brief by Mrs. Barbara J. Horne. History of installation of UFFI and effects on health and family.

226. Letter dated August 4, 1981 from Jim LeBlanc, Province of Nova Scotia, Department of Health to Mr. F. Horne, Dartmouth, N.S. RE: formaldehyde levels at the residence of Mr. F. Horne.

227. Letter dated November 3, 1981 from P.J. Ferguson, M.D., King Medical Clinic, Dartmouth, N.S., to N.S.U.F.F.
Medical evaluation of the condition of Mrs. Barbara Horne.

228. Letter dated November 5, 1981 from Roger T. Michael, M.D., Halifax, N.S., addressed to Whom It May Concern.
Re medical condition of Mrs. Barbara Horne.

229. - Memorandum dated November 5, 1981 from Susan Letson, Province of Nova Scotia, Dept. of Municipal Affairs. RE: Record of sick leave of Mark Poirier.
- Letter dated November 6, 1981 from Dr. R.L. Langdon, M.D., Halifax, N.S. addressed to Whom It May Concern re medical history of Mark Poirier.

229.A Mark Poirier - Sick leave. 1978.

230. Statements by Martha and Mark Poirier dated November 8, 1981, re physical symptoms.

230. A. Mark Poirier - Sick leave. 1979 - 1980.

231. Letter dated May 8, 1981 from Jim LeBlanc, Province of Nova Scotia, Department of Health to Mr. Peter MacDonald, Inspector, Atlantic Health Unit, Halifax, N.S. Re: Formaldehyde levels at the residence of Mark Poirier, Halifax, N.S.

232. Letter dated August 26, 1981 from Jim LeBlanc, Province of Nova Scotia, Department of Health to Mr. Mark Poirier, Halifax, N.S. RE: Formaldehyde levels at the residence of Mr. Mark Poirier.

233. Medical notes dated Sept. 22, 1981 on the letterhead of Robert S. Grant, M.D., Children's Hospital, Halifax, N.S. RE: condition of Jean Luc Poirier.

234. Cron, Charles C., M.D., Halifax, N.S. Case summary Re: Jean-Luc Poirier. November 9, 1981 Appended: Nizami, Riaz M. "Formaldehyde: its hazards at work and in the home." Modern Medicine of Canada, August 1981, Vol. 36, no. 8, pp. 1097-1102.

235. Questionnaire by Mr. Poirier.

236. Advertisement placed in Halifax Chronicle-Herald Sept. 26, 1981. (Also placed in 11 other regional newspapers throughout the province). Re: N.S.U.F.F.

237. Letter dated June 3, 1981 from Jim LeBlanc, Province of Nova Scotia, Department of Health to Mrs. Byrne, Halifax, N.S. RE: Formaldehyde levels at the residence of Mrs. Byrne.

238. Letter dated November 9, 1981 from Paul L. Landrigan, M.D., Halifax, N.S. addressed to Whom It May Concern. RE: Mrs. Leona Anne Byrne.

239. Collection of photocopied references collected by Dr. Joel R. Bender, Haskell Laboratory for Toxicology and Industrial Medicine, following his testimony given in Toronto, Sept. 28-29,1981.

    1. Walrath, J. and J.F. Fraumenie. Proportionate mortality among New York embalmers. National Cancer Institute, National Institute of Health, Bethesda, Maryland.

    2. Wong, O., Biometric Research Institute, Washington, D.C. An epidemiologic mortality study of a cohort of chemical workers potentially exposed to formaldehyde, with a discussion on SMR and PMR. Presented at the Third Chemical Industry Institute of Toxicology Conference on Toxicology, Raleigh, North Carolina, November 21, 1980.

    3. Marsh, G.M., Graduate School of Public Health, University of Pittsburgh. Proportional mortality among chemical workers exposed to formaldehyde, presented at the Third CIIT Conference on Toxicology, Raleigh, North Carolina, November 21, 1980.

    4. Marks, T.A., W.C. Worthy, and R.E. Staples. "Influence of formaldehyde and sonacide (R)(potentiated acid glutaraldehyde) on embryo and fetal development in mice". Teratology, 1980, Vol. 22, pp. 51-58.

5. Staples, R.E., E.I du Pont de Nemours and Co. Inc., Haskell Laboratory for Toxicology and Industrial Medicine, Wilmington, Delaware. Teratogenicity of formaldehyde.

6. Rusch, G.M., H.F. Bolte, and W.E. Rinehart. A 26-week inhalation toxicity study with formaldehyde in the monkey, rat and hamster, performed at Bio/dynamics, East Millstone, New Jersey under contract from the Formaldehyde Institute, Scarsdale, New York.

7. Sneddon, I.D., A.K. Sykes, and J.P. Finn, Life Sciences Research Essex. Formaldehyde inhalation: a 26-week electron microscopic study in rats of selected lung, nasal turbinate and trachael tissues. Report to Synthetic Organic Chemical Manufacturers Association, May 21, 1980.

8. Formaldehyde and other aldehydes, Chapters 2, 3, 7, and 8. Assembly of Life Sciences, National Research Council, National Academy Press, Washington, D.C. 1981.

9. Abstracts of papers presented by CIIT staff at the 20th annual meeting of the Society of Toxicology, San Diego, Calif., March 1-5, 1981. "Abstracts are published in The Toxicologist 1(1), March 1981."

10. Meadows, G.W. and G.M. Rusch. The measuring and monitoring of formaldehyde in inhalation test atmospheres. Performed under contract from the Formaldehyde Institute, Scarsdale, New York. Intended for publication in the Journal American Industrial Hygiene Association.

11. Rusch, G.M., G.M. Hoffman, and G.W. Meadows. Laboratory evaluation of near-continuous operation of a formaldehyde vapor monitor. Performed under contract from the Formaldehyde Institute, Scarsdale, New York. Intended for publication in the Journal American Industrial Hygiene Association.

12. Letter from J.R. Bender, M.D., Formaldehyde Institute, to R.S. Smith, Textile Fibers Department, E.I. du Pont de Nemours and Company, dated February 25, 1981.

240. Various letters and photocopies of articles relating to UFFI issue.

241. Testimony of Dr. F. Infante before Hazardous Products Board of Review in the matter of the Hazardous Products Act and in the matter of an inquiry under Section 9 of the said Act concerning the nature and characteristics of urea formaldehyde based thermal insulation, foamed in place, used to insulate buildings. Chairman Jacques Lamoureux presiding, Hull, P.Q., Nov. 13, 1981.

242. Infante, Peter F. (et al). "Health hazards of formaldehyde". Lancet, October 31, 1981, pp. 980-981.

243. Albert, Roy E., (et al). Nasal cancer in the rat induced by gaseous formaldehyde and hydrogen chloride. Affiliation: New York University Medical Center, Institute of Environmental Medicine. Submitted to Journal of the National Cancer Institute, August 7, 1981.

244. Summary of data reported and evaluation (by IARC Working group.) Concludes that formaldehyde "should be considered...as if it represented a carcinogenic risk to man."

245. Curriculum vitae of Dr. Peter Francis Infante.

246. Report of the Ministry of Health of Ontario to the Board of Review relative to its urea formaldehyde foam insulation home testing program. November 13, 1981.

247. Curriculum vitae of Gordon Kenneth Martin, M.D., D.P.H., Ontario Ministry of Health.

248. Strauss, Stephen. "Homes so airtight they make people sick; ventilation gets rid of pollutants." Globe and Mail, Thursday, Nov. 12, 1981, p.T1.

249. Letter dated October 19, 1981 from Dr. C.S. Gibbons, Ontario Research Foundation, to Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs with information requested by the Board of Review. Includes: 1) introductory letter 2) listing of sequence of events for NRC survey 3) supporting documents relating to survey 4) Dr. Geisler's resumé.

250. Contract between National Research Council, Canada and Ontario Research Foundation. Field studies of formaldehyde gas in homes - data collection. Contract no. 080-080/0-4423.

251. Serie de diapositives présentées par Doug Hacking, Manitoba Housing and Renewal Corporation, et lettre contenant des numéros adressée à Wendy Burnham, Direction du contentieux, Consommation et Corporations Canada/ Set of slides presented by Doug Hacking with letter listing numbers to Wendy Burnham, Legal Branch, Dept. Consumer and Corporate Affairs/Visionnement possible à la bibliothèque du Ministère de la Consommation et des Corporations/Available for viewing at the Consumer and Corporate Affairs Library only.

252. 1. Letters forwarded to respondents to notice of Board of Review. 2. Responses to Board of Review (117).

253. Centre d'information et de coordination sur la MIUF. Rapport concernant l'enquête nationale de vérification présentée devant la Commission d'examen. Le 14 décembre 1981. Urea Formaldehyde Foam Insulation Information and Coordination Centre. Report on the national testing survey to the Board of Review. December 14, 1981.

253a. Centre d'information et de coordination sur la MIUF.
Rapport sur le programme national de vérification présenté à la Commission d'examen. Premier supplément. 30 décembre 1981.
Urea Formaldehyde Foam Insulation Information and Coordination Centre.
Report on the national testing survey to the Board of Review. Supplement no. 1. December 30, 1981.

254. Canada. Department of Consumer and Corporate Affairs. I. Procedures manual for the sampling of homes insulated with urea formaldehyde foam. II. Quality assurance /Quality control specifications. September 1981.

255. UFFI National Testing Program; QA/QC final report. Submitted to Department of Consumer and Corporate Affairs by Concord Scientific Corporation. November, 1981.

256. Letter dated August 26, 1981 from David W. Goffin, Technical Adviser, Canadian Chemical Producers' Association to Mr. Douglas M. Youngson, Urea Formaldehyde Foam Insulation Information and Coordination Centre. Re matters discussed during meeting of August 13, 1981 regarding National Testing Survey of Homes.

257.a. Letter dated November 19, 1981 from Harry I. Cohen, Program Manager, Household Structural Products Program, U.S. Consumer Product Safety Commission. To: Persons interested in commenting on additional scientific, technical and economic data relating to the Consumer Product Safety Commission's proposed ban on Urea Formaldehyde Foam Insulation (UFFI).

Enclosure: "Consumer Product Safety Commission - Urea-formaldehyde foam insulation: Request for comment on additional data." Federal Register, Wednesday, November 18, 1981, Vol. 46, no. 22, pp. 56762-56766.

257.b. Cohn, Murray S. Revised carcinogenic risk assessment for urea formaldehyde foam insulation: estimates of cancer risk due to inhalation of formaldehyde released by UFFI.

257.c. Gammage, R.B. and A.R. Hawthorne. Studies of the emission of formaldehyde from urea-formaldehyde foam insulation (UFFI) in support of state and federal decisions concerning the residential installation of UFFI.

257.d. Hawthorne, A.R. (et al). An evaluation of Formaldehyde emission potential from Urea-Formaldehyde Foam Insulation: panel measurements and modelling. Oak Ridge National Laboratory. Research sponsored by the U.S. Consumer Product Safety Commission. (ORNL/TM-7959)

258.a. Comment of the Formaldehyde Institute before the Consumer Product Safety Commission: Urea-formaldehyde foam insulation: proposed ban; 46 Fed. Reg. 56762 et seq (Nov. 18, 1981) December 18, 1981. With covering letter.

258.b. (Ad hoc Technical Evaluation Committee) Comments in regard to the Consumer Product Safety Commission's additional technical data to support the proposed ban on UFFI. With covering letter from C.W. Frank, Professor of Chemistry, University of Iowa, dated December 14, 1981.

258.c. Letter dated December 16, 1981 from Dr. Sidney I. Firstman, Consultant in Technology Application, to Mr. C.T. Howlett Jr., Formaldehyde Institute. Re: Review of CPSC's "Urea-formaldehyde foam insulation: Request for comment on additional data."

258.d. Memorandum, U.S. Consumer Product Safety Commission. Re: Preliminary data input for the risk assessment of the chronic effects of formaldehyde.
- Progress report re "to elucidate the mode of carcinogenic action of HCO and HCL."

258.e. Chemical Industry Institute of Technology. Data released to the International Agency for Research on Cancer (IARC). Working Group. October 19, 1981.

258.f. Letter dated November 15, 1980 from R. Ben-Dyke and H.F. Bolte, Bio-dynamics Inc. to Dr. John J. Clary, Toxicology Director, Celanese Corporation. Re: "overview of the key conclusions... for the 26 week Inhalation Toxicity Study on Formaldehyde... also ... copy of the incidence tables".

258.g. Correspondence and memoranda re formaldehyde levels.

COMMISSION D'EXAMEN DES
PRODUITS DANGEREUX PORTANT
SUR LA MOUSSE ISOLANTE
D'URÉE-FORMALDÉHYDE

HAZARDOUS PRODUCTS
BOARD OF REVIEW ON
UREA FORMALDEHYDE
FOAM INSULATION

INDEX DES PROCÈS-VERBAUX

INDEX TO THE TRANSCRIPTS
OF PROCEEDINGS

le 29 juin 1981 au
5 janvier 1982

June 29, 1981 to
January 5, 1982

OTTAWA/HULL

PRÉFACE

Le ministère de la Consommation et des Corporations a préparé la présente table des matières de la Transcription des travaux de la Commission d'examen des produits dangereux portant sur la mousse isolante d'urée-formaldéhyde.

Cette table des matières utilisée simultanément avec le Répertoire des piéces justificatives, facilite la consultation de la documentation préparée à l'intention de la Commission d'examen.

La table des matières vise à présenter les témoins, dans leur ordre d'audition, ainsi que les piéces justificatives, dans leur ordre de présentation. Les quarante-trois (43) volumes de la Transcription, ainsi que les deux présentations finales qui définissaient les positions du gouvernement et du secteur privé, sont classés par ordre chronologique. Chaque volume fournit la liste des témoins dans l'ordre selon lequel ils ont été entendus par la Commission, ainsi que des indications relatives aux pièces justificatives qu'ils auraient présentées dans le cadre de leurs dépositions. Les pièces justificatives qui ont été présentées indépendamment des dépositions des témoins font l'objet d'une liste distincte.

Un répertoire alphabétique des témoins suit la liste chronologique, par ordre de ville où ont été tenues les audiences.

Les documents sont répertoriés dans la langue de publication (c'est-à-dire documents en anglais répertoriés en anglais et documents en français répertoriés en français).

Il est possible de se procurer la Transcription des travaux auprès de l'International Reporting Inc., à Toronto (Ontario).

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PREFACE

The Department of Consumer and Corporate Affairs Canada has prepared this Index to the Transcripts of Proceedings of the Hazardous Products Board of Review on urea formaldehyde foam insulation.

This index, used with the Catalogue of exhibits, serves as an aid to accessing the documentation prepared for the Board of Review.

The purpose of this Index is to identify the order of appearances of witnesses and presentation of exhibits. The forty-three (43) Volumes of Transcripts along with the two final submissions representing the government and industry positions are indexed in chronological order, by volume. Each volume lists the order of appearances of witnesses before the Board, along with any references to exhibits which they may have introduced, or which may have been introduced within the context of their testimony. Exhibits which were introduced independently of witnesses' testimonies are listed separately.

Following this chronological listing is an alphabetical index of witnesses, by city of location for the hearings.

Documents are indexed in the language of publication (i.e. English language documents are indexed in English; French language documents are indexed in French).

The Transcripts of proceedings are available for purchase from International Reporting Inc., Toronto, Ontario.

Access to the Transcripts is also available by consultation or loan through the Departmental Library of Consumer and Corporate Affairs Canada. Should you wish to consult any of the Volumes of Transcripts, please refer to the instructions which follow.

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Volume 1, Ottawa, Ontario, June 29, 1981

W.J. Manuel, Counsel, Consumer and Corporate Affairs.
Submission of Exhibits 1-6.

Volume 2, Ottawa, Ontario, July 29, 1981

W.J. Manuel, Counsel, Consumer and Corporate Affairs.
Submission of Exhibit 7.

Leslie Ross Richardson, Research Scientist, Forintek Canada Corporation.
Testimony.
Exhibits 8, 9, CAC-1.

Dr. Robert B. Caton, Chemist, Concord Scientific Corporation.
Testimony.
Exhibit 10.

Michael Monette, Mechanical Engineer, Scanada Consultants.
Testimony.
Exhibits 11, 12.

Volume 3, July 30, 1981, Ottawa, Ontario

Dr. James Day, M.D., Head, Division of Allergy and Immunology, Queen's University. Testimony.
Exhibits 13, 14.

Herb Wooley, Hygienist, Occupational Health and Safety Division, Saskatchewan Dept. of Labour. Testimony.
Exhibits 15, 16.

Volume 4, Ottawa, Ontario, July 31, 1981

Doug Hacking, Housing Coordinator, Manitoba Housing Renewal Corporation. Testimony.
Exhibits 17, 18, 19.

Marc Clerk, Window Installation Consultant. Testimony.
Exhibit 20.

Volume 5, Hull, Québec, August 3, 1981

Exhibit 21. Unassigned.

Clifford J. Shirtliffe, Research Officer, Division of Building Research, National Research Council of Canada. Testimony.
Exhibits 22, 23, 24.

James Wilmer Smith, Industrial Hygienist; Director, Occupational Health and Safety, University of Toronto; President, Chemical Engineering Research Consultants. Testimony.
Exhibit 25.

Charles W. Pilger, Graduate student and Instructor in Chemistry and Micro-biology, Northern College of Applied Arts and Technology, Kirkland Lake. Testimony.

Volume 6, Hull, Québec, August 4, 1981

Clifford J. Shirtliffe, Research Officer, Division of Building Research, National Research Council of Canada. Testimony.

Volume 7, Hull, Quebec, August 5, 1981

Clifford J. Shirtliffe, Research Officer, Division of Building Research, National Research Council of Canada. Testimony.

Exhibits 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37.

Volume 8, Hull, Québec, August 6, 1981

Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs.
Introduction of Exhibit 6A.

Dr. Richard B. Gammage, Scientist, Health and Safety Research Division, Oak Ridge National Laboratory. Testimony.
Exhibits 38, 39, 40, 41, 42, 43, 44.

Volume 9, Hull, Québec, August 7, 1981

Dr. Richard A. Griesemer, Veterinary Pathologist and Director, Biology Division, Oak Ridge National Laboratory. Testimony.
Exhibits 45, 46, 47.

Volume 10, Hull, Québec, August 17, 1981

Dr. Pierre Savard, Homeowner and Professor of History, University of Ottawa. Testimony.
Exhibit 49.

Mr. Samuel Edward McCracken, Homeowner and Air Canada pilot. Testimony.

Lois and Paul Toderick, Homeowners. Paul Toderick, inspector, Steel Company of Canada. Testimony.

Volume 11, Hull, Québec, August 18, 1981

Lois and Paul Toderick, Homeowners. Paul Toderick, inspector, Steel Company of Canada. Testimony.

Gwen Eileen MacKay-Smith, Homeowner, Housewife and Recreational Therapist. Testimony.

Exhibits 16A, 25A, 21, 20A, 22A, 22B, 51, 52.

John Robert Harrison, Toxicologist, Health and Welfare Canada and Secretary, Expert Advisory Committee on Urea-Formaldehyde Foam Insulation. Testimony.
Exhibit 53.

Gilles Tremblay, Chemist and President, SODEXEN, Inc. (Society of Environmental Expertise). Testimony.
Exhibits 54, 55, 50.

Volume 12, Hull, Québec, August 19, 1981

Clifford J. Shirtliffe, Research Officer, Division of Building Research, National Research Council of Canada. Testimony.

Jacques Adam, Project Engineer, SODEXEN Inc. (Society of Environmental Expertise). Testimony.
Exhibits 56, 57, 58, 59, 60.

Volume 13, Calgary, Alberta, August 26, 1981

Elwood Guy Chartrand, Executive Director, Society of Alberta Home Insulators and General Manager for Masonry Contractor's Association of Southern Alberta. Testimony.

Ralph Jorgensen, Engineer, Distributor for R Plus Industries and Urea Formaldehyde Foam Contractor. Testimony.

Edward Carl Schafer, Chief Engineer, Revelstoke Companies Ltd. Testimony.

Robert James Donahue, Self-employed contractor and pharmacist. Testimony.

Peter Roche, Housing Co-ordinator, Consumers Association in Alberta. Testimony.

Mrs. Arlene Wheatley, Homeowner. Testimony.

Volume 14, Calgary, Alberta, August 27, 1981

Patrick J. Windle, Contractor, R Plus Industries.
Exhibits 62, 62A, 63, 64.

Dennis Allan Demeria, Homeowner and Social Worker. Testimony.

Darlene Demeria, Homeowner and Housewife. Testimony.

Patrick J. Windle, Contractor. Testimony.
Introduction of Exhibits 65, 66.

Joseph C. Boeckx, Masonry Contractor and President, Masonry Contractors Association (Southern Alberta). Testimony.

Harry Morstead, Consultant in masonry. Testimony.
Exhibit 67.

Patrick J. Windle. Argument.

Volume 15, Vancouver, B.C., August 31, 1981

Lillian R. Hickman, Homeowner. Testimony.
Exhibit 68.

Tana Webber, Homeowner and Legal Secretary. Testimony.

Ellen Jodine Vajda, Homeowner and Draftsperson. Testimony.

D. Rhon Williams, Homeowner and Retired. Testimony.

Arlene and Blake Cook, Homeowners. Testimony.
Exhibit 69.

Colleen Marjorie Valancius, Homeowner and Sales Supervisor. Testimony.
Exhibit 70.

Volume 16, Vancouver, B.C., September 1, 1981

Dr. John Richard Ward Wynne, Physician. Testimony.
Exhibits 71, 72, 73.

Derrick Humphrey, Mayor of Vancouver. Statement.

Almas Nanji, Homeowner and Quality controller. Testimony.

Vivian Burton, Homeowner and Business woman. Testimony.

Alex and Judy Coté, Homeowners. Testimony.

Volume 17, Vancouver, B.C., September 2, 1981

Exhibit 74. Introduced by Mr. David S. Cohen, Urea Formaldehyde Foam Insulation Action Association.

Joshua Fitch, Homeowner and Industrial Relations Advisor. Testimony.

Dr. Brigitta Weaver, Homeowner and Dentist. Testimony.

Peter A. Breysse, Associate Professor, Dept. of Environmental Health, School of Public Health and Community Medicine, University of Washington, Seattle. Testimony.
Exhibits 75, 76, 77.

Volume 18, Vancouver, B.C., September 3, 1981

Exhibit 78. Introduced by David S. Cohen, Urea Formaldehyde Foam Insulation Action Association.

Walter Raepple, Energy Conservation Consultant and Co-author of Keeping the Heat In. Testimony.
Exhibit 79.

Robert George Hunter, Chemist, Can Test Ltd. Testimony.
Exhibits 80, 81.

Volume 19, Vancouver, B.C. September 4, 1981

David Robert Kinloch, Physician, Medical Health Officer, City of Vancouver. Testimony.
Exhibits 82, 82A, 82B, 83, 84.

Eldon Rideout, City Analyst, Director of the City Analyst Laboratories for the Health Department, City of Vancouver. Testimony.

Domenic Losito, Public Health Inspector, City of Vancouver. Testimony.

Volume 20, Montréal, Québec, le 14 septembre 1981/September 14, 1981

Maria Nascimiento, Propriétaire. Témoignage.

K.C. Van Drunen, Homeowner and Pilot. Testimony.

Jean Gagnon, Propriétaire et Policier pour la Sûreté du Quebéc. Témoignage.

Volume 21, Montréal, Québec, le 15 septembre 1981/September 15, 1981

Harry Baikowitz, Chemist and President, Technitrol Company. Testimony.

Pierrette Bastien, Propriétaire et Ménagère. Témoignage.

Len Cocolicchio, Homeowner and Public Relations Representative, Association for the Removal Urea Formaldehyde Foam. Testimony.

Solange Tremblay, Propriétaire et Ménagère. Témoignage.

Larry Richard Gee, Technician, Pulp and Paper Research Institute of Canada and President, Association for the Removal of Urea Formaldehyde Foam. Testimony.

Suzanne Mochon, Propriétaire, Ménagère et secrétaire. Témoignage.

Madeleine Leduc, Propriétaire et Ménagère. Témoignage.

Bernice Alix, Propriétaire et Retraitée. Témoignage.

Emilie Deschenes, Propriétaire et Ménagère. Témoignage.

Exhibits 85, 86.

Volume 22, Montréal, Québec, le 16 septembre 1981/September 16, 1981

Irene Frigon, Propriétaire. Témoignage.
Exhibits 91, 92, 93.

Gary Wilson, Homeowner and Flight Service Specialist, Testimony.
Exhibits 94, 95.

Marie-Blanche Roberge Larouche, Propriétaire et Ménagère. Témoignage.

Denise Massicotte, Propriétaire et Ménagère. Témoignage.
Exhibit 96.

Jean Mailloux, Propriétaire et Industriel. Témoignage.
Exhibits 97, 98.

Sharon Berger, Homeowner, Housewife and Secretary.
Testimony.
Exhibit 99.

Roxanne Ménard, Directeur générale, l'Organisation des victimes de l'isolation au formaldéhyde (OVIF). Témoignage.
Exhibits 100, 101, 102.

Guy Chevalier, Propriétaire et Educateur. Témoignage.
Exhibit 103.

Jacqueline Desbaillets, Propriétaire et Ménagère. Témoignage.
Exhibit 104.

Sally Drummond, Homeowner and Housewife. Testimony.
Exhibit 105.

Lucie Archambeault Daigneault, Propriétaire et Mère de famille.
Témoignage
Exhibit 106.

Volume 23, Montréal, Québec, le 17 septembre 1981/September 17, 1981

Florian Tessier, Propriétaire. Témoignage.
Exhibit 107.

Eldon Rathburn, Homeowner and Retired. Testimony.

Marie Garant Bertrand, Professeur et Vice-présidente, Comité de la mousse d'urée formaldéhyde du sud-ouest. Témoignage.

Pierre Doyon, Propriétaire et Directeur des ventes. Témoignage.
Exhibit 108.

Claude Hamon, Propriétaire et Soudeur sur la construction. Témoignage.
Exhibits 109, 110.

Lionel Portugal, Homeowner and Importer. Testimony.
Exhibit 111.

Karen Boloten, Tenant. Testimony.

Marcel Allard, Propriétaire et Retraité. Témoignage.
Exhibit 112.

Maurice Thivierge. Propriétaire et Travailleur, Dominion Textile. Témoignage.
Exhibit 113.

Larry Gee, Representative, Association for the Removal of Urea Formaldehyde Foam. Presentation.

Mona Schlafman and Jacob Schlafman, Homeowners. Testimony.
Exhibit 114, not entered.

Luc Racicot et Louise Lupien Racicot, Propriétaire. Témoignage.
Exhibit 115.

Clément Proulx, Propriétaire et Comptable. Témoignage.
Exhibit 116.

Robert Arteau, Propriétaire et Policier. Témoignage.
Exhibit 117.

Volume 24, Hull, Québec, September 21, 1981

Exhibit 118. Introduced for Energlobe Inc.

George Stewart Wiberg, Toxicologist, Department of National Health and Welfare. Testimony.
Exhibits 119, 120, 121, 122, 123, 124, 125, 126.

Gideon Vardi, Engineer; Former employee of General UF Foam, Granby; and Founding member, Canadian Urea Foam Insulation Council. Testimony.
Exhibit 127.

Peter Jones, Standards Administrator and Acting Director, Standards and Specifications Branch, Canadian General Standards Board. Testimony.

Volume 25, Hull, Québec, September 22, 1981

Exhibit 127. Introduced by Mr. G. Craig, Energlobe Inc.

Allan Michael Bowles, Standards Officer, Canadian General Standards Board and Secretary, CGSB Committee on the Insulation Contractors Certification Program. Testimony.

James Christian Wilson, Manager, Qualifications (Certification) Division, Canadian General Standards Board. Testimony.

Bertie Brian James Wood. General Sales Manager, Borden Chemical. Testimony.
Exhibits 128, 129, 130, 131.

Volume 26, Hull, Québec, September 23, 1981

Ernest Strauss, Executive Vice-President, RAPCO Foam Incorporated. Testimony.
Exhibits 132, 133, 134.

Volume 27, North York, Ontario, September 28, 1981

Donald William Bremner, General Manager, Whiteshield Foamers and Insulation and interim President, Homeowners with the Urea Formaldehyde Foam Insulation Association. Testimony.
Exhibits 135, 136, 137.

Angela Forward and Wallace Forward, Homeowners. Testimony.

Roman John Pydych, Homeowner and Machinist. Testimony.

Mrs. Elsie Frank, Homeowner and Part-time worker, Sears. Testimony.

Patricia Naomi Clark, Homeowner; Graduate student, University of Toronto and part-time teacher. Testimony.
Exhibits 138, 139, 140.

Alfred Marshall, Homeowner and Retired. Homeowner. Testimony.

Mrs. Joan Dawson, Homeowner and Public Health Nurse. Testimony.
Exhibit 141.

Shirley May Thomas, Homeowner and Bank employee. Testimony.
Exhibit 142.

William Barber, Homeowner and Technical Representative. Testimony.
Exhibit 143.

William Harper Bremner, Sales Consultant, and formerly with Ontario Foamers Insulation and with RAPCO Foam Inc. Testimony.
Exhibits 144, 145, 146, 148, 149, 150, 151, 152.

Ronald John Morgan, Homeowner and Locomotive Engineer. Testimony.
Exhibits 153, 154.

William Way, Homeowner and Retired. Testimony.

Exhibits 155, 156, 157, 158, 159, 160. Introduced by Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs.

Volume 28, North York, Ontario, September 29, 1981

John G. Clary, Toxicologist and Toxicology Director, Celanese Corporation. Testimony.
Exhibits 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178.

Joel Reid Bender, Chairman, Medical Committee, Formaldehyde Institute and Senior Occupational Physician, Dupont Company. Testimony.
Exhibit 179.

William Edwin Fayerweather, Epidemiologist, Dupont Company, on behalf of Formaldehyde Institute. Testimony.
Exhibit 180.

Volume 29, North York, Ontario, September 30, 1981

Clyde W. Frank, Chief, Environmental Chemistry Section, Institute of Agricultural Medicine and Environmental Health, University of Iowa. Testimony.
Exhibits 181, 182, 183, 184.

Lloyd Angus Stephens, Representative for Bluewater Insulation Limited. Testimony.
Exhibits 185, 186.

Robert Jongsma, Homeowner and Truck driver. Testimony.

Louise Webster, Homeowner and Retired. Testimony.

Maria Malfara, Homeowner and Housewife. Testimony.

Maria Bosnak, Homeowner and Florist. Testimony.

William Tell, Homeowner and Electrician. Testimony.

Ace Willsie, Representative of homeowners in Waterloo County. Testimony.

Volume 30, North York, Ontario, September 30, 1981

Arthur Lesley Jefford, President, Jefford Industries Ltd. Testimony.
Exhibit 188.

Bernard Piltch, Homeowner and Professional musician. Testimony.

Milo J. Kabat, President, R.C. Contamination Incorporated. Testimony.

Arthur Lesley Jefford. Testimony.

Rudolfus Goosen, Homeowner and Machinist. Testimony.
Exhibit 189.

Alan Manuel, Teacher, Patricia Manuel, Registered Nurse, Homeowners.
Testimony.

Mario Scala, Homeowner and Production Manager, Aluminum company.
Testimony.
Exhibit 190.

Jean Stansfield, Homeowner and Housewife. Testimony.

Melvyn Leroy Swart, MPP, Ontario. Testimony.
Exhibits 191, 192, 193.

Marjorie Service, Homeowner and Retired Teacher. Testimony.

Bernice Thurston, Homeowner and Housewife. Testimony.

Goldie Eleanor Predote, Homeowner and Former housekeeper. Testimony.

Herman Gleason, Homeowner and Industrial welder. Testimony.

Beverley Bremner, Homeowner; Bookkeeper, Ontario Foamers; Founding member of HUFFI. Testimony.

Manfred F. Urmoneit, Homeowner and Building inspector. Testimony.
Exhibit 194.

Harold Pfaff, Business Manager and President, Insulation Contractors Association. Testimony.
Exhibits 195, 196.

Robert Stewart, Homeowner and General Manager, GSW Building Products Division. Testimony.

Dan Boffa, Homeowner and Engineer. Testimony.

Frank Spitzer, Homeowner; Electrical Engineer; and Founding member, Homeowner with Urea Formaldehyde Foam Insulation (Ontario Division)
Exhibit 197.

Volume 31, North York, Ontario, October 2, 1981

Ron Manser, Homeowner and Service Representative, Xerox. Testimony.

Patricia Lawson, Homeowner and Homemaker. Testimony.
Exhibit 198.

Georgina Pullan, Homeowner and Housewife. Testimony.
Exhibit 199.

Ruth Gill, Homeowner and Homemaker. Testimony.

Ingol Koenne, Homeowner and CPR Clerk. Testimony.

Klaus Wendland, Homeowner and College teacher. Testimony.

Willard Sloan, Homeowner and Insulation Contractor. Testimony.

Shirley Rose Vernon, Homeowner and School teacher. Testimony.

Volume 32, Ottawa, Ontario, October 5, 1981

Dr. Cyril Stephen Gibbons, Research Chemist and Assistant Director, Department of Materials Chemistry, Ontario Research Foundation. Testimony.
Exhibit 200, reserved by Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs.
Exhibits 201, 202, 202A.

Dr. Robert B. Caton, Chemist, Concord Scientific Corporation. Testimony.
Exhibits 203, 204

Dr. Adan A. Effio, Environmental Scientist, United Technology and Science, Inc. Testimony.
Exhibit 205.

Gordon Craig, Energlobe. Statement.

Volume 33, Ottawa, Ontario, October 6, 1981

Dr. Murray Steven Cohn, Biochemist, U.S. Consumer Product Safety Commission. Testimony.
Exhibits 206, 207, 208, 209, 210, 211, 212, 213.

Volume 34, Ottawa, Ontario, October 7, 1981

Constance Grodde, Homeowner and Housewife. Testimony.

Richard McKenzie, Director, EnerSave Advisory Service, Department of Energy, Mines and Resources. Testimony.
Exhibit 214.

Janet Randall, Program Officer, Product Safety Branch, Consumer and Corporate Affairs. Testimony.
Exhibits 215A, 215B, 215C, 216, 217.

Volume 35, Ottawa, Ontario, October 19, 1981

Bruce Herbert Edward Maynard, Executive Director, Canadian General Standards Board. Testimony.

George Brewer, Consultant, National Research Council and Former Materials Acceptance Officer, Central Mortgage and Housing Corporation. Testimony.

Charles Ficner, Assistant Director, Policy and Programmes, Building and Urban Energy Directorate, Dept. of Energy, Mines and Resources. Testimony.

Volume 36, Ottawa, Ontario, October 20, 1981

Dr. Daniel Krewski, Biostatistician, Health Protection Branch, Dept. of National Health and Welfare. Testimony.
Exhibits 218A, 218B, 218C.

Gordon Leslie Walt, Manager of Materials Evaluation, Central Mortgage and Housing Corporation. Testimony.
Exhibit 219.

Neil Stewart, Manager of Operations, CHIP Program.
Exhibit 220.

Dr. Daniel Krewski. Testimony.

Mr. Clifford Shirtliffe, Research Officer, Division of Building Research, National Research Council of Canada. Testimony.

Volume 37, Halifax, N.S. November 9, 1981

William Joseph Powell, Homeowner and Retired. Testimony.
Exhibit 223.

Mark Poirier, Urban planner and Representative, Nova Scotia Urea Formaldehyde Fighters Association (FIGHT). Testimony.
Exhibit 224.

Barbara Horne, Homeowner and Housewife. Testimony.
Exhibits 225, 226, 227, 228.

Paul Sullivan, Homeowner and Insurance Agent and Broker. Testimony.

Nikolajs Dambergs, Homeowner and Retired Research Chemist. Testimony.

Mark Poirier. Testimony resumed.
Exhibits 229, 229-A, 230, 231, 232.

Martha Poirier, Homeowner and Housewife. Testimony.

Charles Claudius Cron, Physician.
Exhibits 233, 234.

Volume 38, Halifax, N.S., November 10, 1981

Exhibits 235, 236. Introduced by Chairman.

Leona Anne Byrne, Homeowner and Registered Nurse. Testimony.
Exhibits 237, 238.

Dr. Mary Goodfellow, Physician. Testimony.

Professor Cyril Byrne, Homeowner and Professor. Testimony.

James LeBlanc, Occupational hygienist, Nova Scotia Department of Health. Testimony.
Exhibit 209A.

Volume 39, Ottawa, Ontario, November 12, 1981

Exhibit 239. Introduced by Mr. Goffin.

Arthur Lesley Jefford. Videotape Film presentation of 3 Marketplace shows.
Exhibit 240.

Volume 40, Ottawa, Ontario, November 13, 1981

Dr. Peter F. Infante, Epidemiologist and Director, Office of Carcinogen Identification and Classification, Health Standards Programs, U.S. Occupational Safety and Health Administration. Testimony.
Exhibits 241, 242, 243, 244, 245.

Dr. Gordon Kenneth Martin, Physician and Executive Director, Health Programs Division, Ontario Dept. of Health. Testimony.
Exhibits 246, 247, 248.

Exhibits 249, 250, 251, 252. Introduced by Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs.

Volume 41, Ottawa, Ontario, December 14, 1981

Clarke Lowry, Director, Urea Formaldehyde Foam Insulation Information and Coordination Centre, Dept. of Consumer and Corporate Affairs. Testimony.
Exhibit 253.

Ritchie Jock MacKay, Professor, Department of Statistics, University of Waterloo and Consultant, UFFI Centre. Testimony.
Exhibits 254, 255.

Dr. Albert G. Nantel, Physician, Centre de Toxicologie de Québec. Testimony.

Volume 42, Ottawa, Ontario, January 5, 1981

Ritchie Jock MacKay, Professor, Department of Statistics, University of Waterloo and Consultant, UFFI Centre. Testimony.
Exhibits 253A, 256.

Dr. Robert B. Caton, Chemist, Concord Scientific Corporation. Testimony.

Exhibits 257A, 257B,257C, 257D. Introduced by Mr. W.J. Manuel, Counsel, Consumer and Corporate Affairs.

Exhibits 258A, 258B, 258C, 258D, 258E, 258F, 258G. Introduced and filed by Mr. Nelson, Counsel, Canadian Chemical Producers' Association.

Volume 43: January 6, 1982. Ottawa, Ontario.

Argument by Mr. W.J. Manuel, Consumer and Corporate Affairs.

Argument by Mr. Wetston, Consumers' Association of Canada.

Argument by Mr. Richard, Canadian Chemical Producers Association.

Rebuttal by Mr. W.J. Manuel.

Rebuttal by Mr. Richard.

Final Submissions

Argument by W.J. Manuel, and W. Burnham, Counsel, Department of Consumer and Corporate Affairs and Department of National Health and Welfare. In the matter of the Hazardous Products Act and in the matter of an inquiry under section 9 of the said Act concerning the nature and characteristics of Urea-Formaldehyde based Thermal Insulation, Foamed in Place, used to Insulate Buildings.

Canadian Chemical Producers Association Submission to the Hazardous Products Act Board of Review on Urea-Formaldehyde Foam Insulation. January 1982.

LISTE DES TÉMOINS/LIST OF WITNESSES

Calgary

Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Boeckx, Joseph C.	Masonry Contractor and President Masonry Contractors' Association (Southern Alberta)	14	Aug. 27	113-118
Chartrand, Elwood Guy	Executive Director, Society of Alberta Home Insulators and General Manager for Masonry Contractors' Association (Southern Alberta)	13	Aug. 26	15- 23
Demeria, Darlene	Homeowner	14	Aug. 27	70- 81
Demeria, Dennis Allan	Homeowner	14	Aug. 27	14- 69
Donahue, Robert James	Self-employed Contractor	13	Aug. 26	122-159
Jorgensen, Ralph	Engineer; Distributor for R Plus Industries and Urea Formaldehyde Foam Contractor	13	Aug. 26	23-102
Morstead, Harry	Consultant in Masonry	14	Aug. 27	123-176
Roche, Peter	Housing Co-ordinator, Consumers' Association in Alberta	13	Aug. 26	160-169
Schafer, Edward Carl	Chief Engineer, Revelstoke Companies Ltd.	13	Aug. 26	103-120
Wheatley, Arlene	Homeowner	13	Aug. 26	169-173
Windell, Patrick J.	Contractor, R Plus Industries	14	Aug. 27	82-112 176-182

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Halifax

Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Byrne, Cyril	Homeowner	38	Nov. 10	29- 37
Byrne, Leona Anne	Homeowner	38	Nov. 10	5- 21
Cron, Charles Claudius	Physician, On behalf of Mrs. Poirier and Luc (son)	37	Nov. 9	104-112
Dambergs, Nikolajs	Homeowner	37	Nov. 9	63- 73
Goodfellow, Mary	Physician, On behalf of Mrs. Byrne	38	Nov. 10	21- 29
Horne, Barbara	Homeowner	37	Nov. 9	22- 50
LeBlanc, James	Occupational Hygienist, Nova Scotia Department of Health	38	Nov. 10	37- 67
Poirier, Mark	Urban Planner and Representative, Nova Scotia Urea Formaldehyde Fighters Association (FIGHT)	37	Nov. 9	15- 22 74- 91
Poirier Martha	Homeowner	37	Nov. 9	91-103
Powell, William Joseph	Homeowner	37	Nov. 9	6- 14
Sullivan, Paul	Homeowner	37	Nov. 9	51- 63

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Montreal

Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Allard, Marcel	Propriétaire	23	17 sept.	71- 78
Alix, Bernice	Propriétaire	21	15 sept.	178-182
Arteau, Robert	Propriétaire	23	17 sept.	141-152
Baikowitz, Harry	Chemist and President, Technitrol Company	21	Sept. 15	6- 41
Bastien, Pierrette	Propriétaire	21	15 sept.	43-102
Berger, Sharon	Homeowner	22	Sept. 16	88-103
Bertrand, Marie Garant	Professeur et Vice-Presidente, Comité de la Mousse d'Urée Formaldéhyde du Sud-Ouest	23	17 sept.	15- 35
Boloten, Karen	Tenant	23	Sept. 17	56- 69
Chevalier, Guy	Propriétaire	22	16 sept.	121-146
Cocolicchio, Len	Homeowner and Public Relations Representative, Association for the Removal of Urea Formaldehyde Foam	21	Sept. 15	104-124
Daigneault, Lucie Archambault	Propriétaire	22	16 sept.	168-183
Desbaillets, Jacqueline	Propriétaire	22	16 sept.	147-155

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Deschenes, Emilie	Propriétaire	21	15 sept.	183-192
Doyon, Pierre	Propriétaire	23	17 sept.	35 -41
Drummond, Sally	Homeowner	22	Sept. 16	155-168
Frigon, Irene	Propriétaire	22	16 sept.	7- 19
Gagnon, Jean	Propriétaire	20	14 sept.	31- 41
Gee, Larry Richard	Technician, Pulp and Paper Research Institute of Canada and President, Association for the Removal of Urea Formaldehyde Foam	21 23	Sept. 15 Sept. 17	127-154 89- 90
Hamon, Claude	Propriétaire	23	17 sept.	41- 49
Larouche, Marie-Blanche Roberge	Propriétaire	22	16 sept.	39- 51
Leduc, Madeleine	Propriétaire	21	15 sept.	167-178
Mailloux, Jean	Propriétaire	22	16 sept.	66- 87
Massicotte, Denise	Propriétaire	22	16 sept.	52- 66
Ménard, Roxanne	Directeur-Générale, Organisation des Victimes de l'isolation au Formaldéhyde (OVIF)	22	16 sept.	104-120

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Mochon, Suzanne	Propriétaire	21	15 sept.	154-166
Nascimiento, Maria	Propriétaire	20	14 sept.	6- 10
Portugal, Lionel	Homeowner	23	Sept. 17	49- 55
Proulx, Clement	Propriétaire	23	17 sept.	131-140
Racicot, Luc et Louise Lupien	Propriétaires	23	17 sept.	101-131
Rathburn, Eldon	Homeowner	23	Sept. 17	13- 15
Shlafman, Mona and Jacob	Homeowners	23	Sept. 17	91-101
Tessier, Florian	Propriétaire	23	17 sept.	7- 13
Thivierge, Maurice	Propriétaire	23	17 sept.	78- 88
Tremblay, Solange	Propriétaire	21	15 sept.	124-127
Van Drunen, K.C.	Homeowner	20	Sept. 14	11- 31
Wilson, Gary	Homeowner	22	Sept. 16	20- 38

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North York (Toronto)

Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Barber, William	Homeowner	27	Sept. 28	99-108
Bender, Joel Reid	Senior Occupational Physician, Dupont Co. and Chairman, Medical Committee, Formaldehyde Institute	28	Sept. 29	121-146
Boffa, Dan	Homeowner	30	Oct. 1	220-227
Bosnak, Maria	Homeowner	29	Sept. 30	227-236
Bremner, Beverley	Homeowner; Bookkeeper, Ontario Foamers; Founding Member of HUFFI	30	Oct. 1	169-182
Bremner, Donald William	General Manager, Whiteshield Foamers and Insulation, and Interim President, Homeowners with Urea Formaldehyde Foam Insulation Association	27	Sept. 28	7-35
Bremner, William Harper	Sales Consultant; formerly with RAPCO Foam Inc. and Ontario Foamers Insulation	27	Sept. 28	109-150
Clark, Patricia Naomi	Homeowner	27	Sept. 28	64 -79
Clary, John G.	Toxicologist and Toxicology Director, Celanese Corporation	28	Sept. 29	6-119
Dawson, Joan	Homeowner	27	Sept. 28	84- 92

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Fayerweather, William Edwin	Epidemiologist, Dupont Company, on behalf of Formaldehyde Institute	28	Sept. 29	147-180
Forward, Angela and Wallace	Homeowners	27	Sept. 28	36- 48
Frank, Clyde W.	Chief, Environmental Chemistry Section, Institute of Agricultural Medicine and Environmental Health, University of Iowa	29	Sept. 30	5-182
Frank, Elsie	Homeowner	27	Sept. 28	57- 62
Gill, Ruth	Homeowner	31	Oct. 2	47- 49
Gleason, Herman	Homeowner	30	Oct. 1	162-169
Goosen, Rudolfus	Homeowner	30	Oct. 1	82- 92
Jefford, Arthur Lesley	President, Jefford Industries Ltd.	30	Oct. 1	6- 11 39- 82
Jongsma, Robert	Homeowner	29	Sept. 30	214-219
Kabat, Milo J.	President, RC Contamination Inc.	30	Oct. 1	29 -39
Koenne, Ingol	Homeowner	31	Oct. 2	49- 53
Lawson, Patricia	Homeowner	31	Oct. 2	23- 40
Malfara, Maria	Homeowner	29	Sept. 30	225-227

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Manser, Ron	Homeowner	31	Oct. 2	5- 23
Manuel, Alan and Patricia	Homeowners	30	Oct. 1	92-109
Marshall, Alfred	Homeowner	27	Sept. 28	79- 83
Morgan, Ronald John	Homeowner	27	Sept. 28	150-155
Pfaff, Harold	Business Manager and President Insulation Contractors Association	30	Oct. 1	192-209
Piltch, Bernard	Homeowner	30	Oct. 1	11- 29
Predote, Goldie Eleanor	Homeowner	30	Oct. 1	157-161
Pullan, Georgina	Homeowner	31	Oct. 2	41- 46
Pydych, Roman John	Homeowner	27	Sept. 28	48- 56
Scala, Mario	Homeowner	30	Oct. 1	110-119
Service, Marjorie	Homeowner	30	Oct. 1	142-151
Sloan, Willard	Homeowner	31	Oct. 2	69- 87
Spitzer, Frank	Homeowner	30	Oct. 1	227-239
Stansfield, Jean	Homeowner	30	Oct. 1	119-124

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Stewart, Robert	Homeowner	30	Oct. 1	210-220
Stephens, Lloyd Angus	Representative for Bluewater Insulation Ltd.	29	Sept. 30	183-214
Swart, Melvyn Leroy	M.P.P., Ontario	30	Oct. 1	125-142
Tell, William	Homeowner	29	Sept. 30	236-242
Thomas, Shirley May	Homeowner	27	Sept. 28	93- 99
Thurston, Bernice	Homeowner	30	Oct. 1	151-157
Urmoneit, Manfred F.	Homeowner	30	Oct. 1	183-192
Vernon, Shirley Rose	Homeowner	31	Oct. 2	88- 94
Way, William	Homeowner	27	Sept. 28	156-162
Webster, Louise	Homeowner	29	Sept. 30	220-224
Wendland, Klaus	Homeowner	31	Oct. 2	53- 63
Willsie, Ace	Representative of Homeowners in Waterloo County	29	Sept. 30	243-273

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Adam, Jacques	Project Engineer, SODEXEN, Inc. (Society of Environmental Expertise)	12	Aug. 19	43-166
Bowles, Allan Michael	Standards Officer, Canadian General Standards Board and Secretary, CGSB Committee on the Insulation Contractors Certification Program	25	Sept. 22	5- 40
Brewer, George	Consultant, National Research Council and Former Materials Acceptance Officer, Central Mortgage and Housing Corporation	35	Oct. 19	38- 69
Caton, Robert B.	Chemist, Concord Scientific Corporation	2 32 42	July 29 Oct. 5 Jan. 5	119-144 164-188 65- 92
Clerk, Marc	Window Installation Consultant	4	July 31	104-161
Cohn, Murray Steven	Biochemist, U.S. Consumer Product Safety Commission	33	Oct. 6	11-167
Craig, Gordon	Energlobe	32	Oct. 5	213
Day, James	Head, Division of Allergy and Immunology, Queen's University	3	July 30	9-123
Effio, Adan A.	Environmental Scientist, United Technology and Science Inc.	32	Oct. 5	189-213

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Ficner, Charles	Assistant Director, Policy and Programmes, Buildings and Urban Energy Directorate, Department of Energy, Mines and Resources	35	Oct. 19	69- 84
Gammage, Richard B.	Scientist, Health and Safety Research Division, Oak Ridge National Laboratory	8	Aug. 6	7-157
Gibbons, Cyril Stephen	Research Chemist and Assistant Director, Department of Materials Chemistry, Ontario Research Foundation	32	Oct. 5	5-164
Grodde, Constance	Homeowner	34	Oct. 7	5- 9
Griesemer, Richard A.	Veterinary Pathologist and Director, Biology Division, Oak Ridge National Laboratory	9	Aug. 7	5-125
Hacking, Doug	Housing Coordinator, Manitoba Housing Renewal Corp.	4	July 31	6-103
Harrison, John Robert	Toxicologist, Health and Welfare Canada and Secretary, Expert Advisory Committee on Urea Formaldehyde Foam Insulation	11	Aug. 18	73- 96
Infante, Peter F.	Epidemiologist and Director, Office of Carcinogen Identification and Classification, Health Standards Programs, U.S. Occupational Safety and Health Administration	40	Nov. 13	6- 47

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Jefford, Arthur Lesley	President, Jefford Industries Inc.	39	Nov. 12	6- 32
Jones, Peter	Standards Administrator and Acting Director, Standards and Specifications Branch, Canadian General Standards Board	24	Sept. 21	175-188
Krewski, Daniel	Biostatistician, Health Protection Branch, Department of National Health and Welfare	36	Oct. 20	5- 10
Lowry, Clarke	Director, Urea Formaldehyde Foam Insulation Information and Coordination Centre, Dept. of Consumer and Corporate Affairs	36 41	Oct. 20 Dec. 14	41-100 6- 9
McCracken, Samuel Edward	Homeowner	10	Aug. 17	123-170
MacKay, Ritchie Jock	Professor, Department of Statistics, University of Waterloo and Consultant UFFI	41 42	Dec. 14 Jan. 5	10- 31 5- 65
MacKay-Smith, Gwen Eileen	Homeowner	11	Aug. 18	30- 66
McKenzie, Richard	Director, EnerSave Advisory Service, Dept. of Energy, Mines and Resources	34	Oct. 7	10- 29
Martin, Gordon Kenneth	Physician and Executive Director, Health Programs Division, Ontario Dept. of Health	40	Nov. 13	49- 88

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Maynard, Bruce Herbert Edward	Executive Director, Canadian General Standards Board	35	Oct. 19	6- 37
Monette, Michael	Mechanical Engineer, Scanada Consultants	2	July 29	145-168
Nantel, Albert G.	Physician, Centre de Toxicologie de Québec	41	Dec. 14	33- 56
Pilger, Charles W.	Graduate Student, and Instructor in Chemistry and Microbiology, Northern College of Applied Arts and Technology, Kirkland Lake	5	Aug. 3	111-126
Randall, Janet	Program Officer, Product Safety Branch, Consumer and Corporate Affairs	34	Oct. 7	29- 43
Richardson, Leslie Ross	Research Scientist, Forintek Canada Corp.	2	July 29	48-118
Savard, Pierre	Homeowner	10	Aug. 17	7-123
Shirtliffe, Clifford J.	Research Officer, Division of Building Research, National Research Council of Canada	5	Aug. 3	5- 62
		5	Aug. 3	126-145
		6	Aug. 4	4-122
		7	Aug. 5	6-173
		12	Aug. 19	5- 42
		36	Oct. 20	101-132
Smith, James Wilmer	Industrial Hygienist; Director, Occupational Health and Safety, University of Toronto; and President, Chemical Engineering Research Consultants Ltd.	5	Aug. 3	63-111

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Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Stewart, Neil	Manager of Operations, CHIP Program	36	Oct. 20	31- 40
Strauss, Ernest	Executive Vice-President, RAPCO Foam Inc.	26	Sept. 23	6- 71
Toderick, Lois and Paul	Homeowners	10	Aug. 17	170-215
		11	Aug. 18	4- 30
Tremblay, Gilles	Chemist and President, SODEXEN, Inc. (Society of Environmental Expertise)	11	Aug. 18	97-167
Vardi, Gideon	Engineer; Former employee, General UF Foam, Granby; and founding member Canadian Urea Foam Insulation Council	24	Sept. 21	121-175
Walt, Gordon Leslie	Manager, Materials Evaluation, Central Mortgage and Housing Corporation	36	Oct. 20	11- 30
Wiberg, George Stewart	Toxicologist, Dept. of National Health and Welfare	24	Sept. 21	7-120
Wilson, James Christian	Manager, Qualifications (Certification) Division, Canadian General Standards Board	25	Sept. 22	40 -63
Wood, Bertie Brian James	General Sales Manager, Borden Chemical	25	Sept. 22	83-111
Wooley, Herb	Hygienist, Occupational Health and Safety Division, Saskatchewan Dept. of Labour	3	July 30	123-185

LISTE DES TÉMOINS/LIST OF WITNESSES

Vancouver

Nom/Name	Société/Organization/Occupation	Volume	Date	Pages
Breysse, Peter A.	Associate Professor, Dept. of Environmental Health, School of Public Health and Community Medicine, University of Washington, Seattle	17	Sept. 2	40-116
Burton, Vivian	Homeowner	16	Sept. 1	70- 84
Cook, Arlene and Blake	Homeowners	15	Aug. 31	100-122
Coté, Alex and Judy	Homeowners	16	Sept. 1	85-103
Fitch, Joshua	Homeowner	17	Sept. 2	7- 31
Hickman, Lillian R.	Homeowner	15	Aug. 31	8- 30
Humphreys, Derrick	Mayor of West Vancouver	16	Sept. 1	24- 26
Hunter, Robert G.	Chemist, Can Test Ltd.	18	Sept. 3	33- 77
Kinloch, David R.	Physician, Medical Health Officer, City of Vancouver	19	Sept. 4	5- 83
Losito, Dominic	Public Health Inspector, City of Vancouver	19	Sept. 4	88- 90
Nanji, Almas	Homeowner and quality controller	16	Sept. 1	50- 69
Raepple, Walter	Energy Conservation Consultant, Dept. of Energy, Mines and Resources	18	Sept. 3	6-32

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Rideout, Eldon	Director, City Analyst Laboratories, Health Department, City of Vancouver	19	Sept. 4	83- 87
Vajda, Ellen J.	Homeowner	15	Aug. 31	50- 81
Valancius, Colleen Marjorie	Homeowner	15	Aug. 31	123-144
Weaver, Brigitta	Homeowner	17	Sept. 2	32-40
Webber, Tana	Homeowner	15	Aug. 31	31- 49
Williams, D. Rhon	Homeowner	15	Aug. 31	82- 99
Wynne, John R.W.	Physician	16	Sept. 1	5- 49